SECTION 1

SERVICE INFORMATION

Model No. : AG-HMC150P/AN, AG-HMC151E, AG-HMC152EN
AG-HMC153MC, AG-HMC154ER

CONTENTS

1. Servicing fixtures & tools

No.	Parts No.	NAME	REMARK
1	VFK1988	Measuring Board	
2	VFK1989	Extension Cable	
3	----------	RS232C cross cable (9P)	
4	DE-A35BA	AC Adapter	For P model
4	DE-A35CA	AC Adapter	For E, EN and ER model
4	DE-A35DA	AC Adapter	For MC model
4	DE-A35EA	AC Adapter	For AN model
5	K2GJ2DZ00022	DC Cable	
6	K2GJ2DC00002	DC Cable	It is equal to VJA1128
7	VFK1341	CC Filter (LB40)	
8	VFK1347	CC Filter (LB120)	
9	VFK1884	CC Filter (LBA2)	
10	VFK1888	CC Filter (LBB6)	
11	VFK1885	CC Filter (LBB2)	
12	RFKZ0422	Collimator	***NOTE1: Please refer to the following.**
13	----------	Collimator Adaptor	***NOTE2: Please refer to the following.**
14	VFK1345	CC Filter Holder	
15	VFK1346	Step Down Ring (62mm-52mm)	
16	VFK1659	Step-Up Ring (43mm-49mm)	
17	VFK1660	Step-Up Ring (49mm-62mm)	
18	VFK1809	72mm Attachment Ring	
19	K2KZ9DB00004	Component cable	The marketed thing can be used.
20	K2RYYYYY0001	PIN-BNC Conversion cable	(3 pcs) The marketed thing can be used.
21	VFK0645	Grayscale Chart	4:3, Reflection type
22	----------	White chart	
23	***VVS0070**	PC EVR Software	Download from the Global WEB site.
24	***VVS0068**	Camera adjustment Software	Download from the Global WEB site.
25	***VVS0069**	PC EVR Software	Download from the Global WEB site.
26	VVS0058	USB Driver for Adjustment	Download from the Global WEB site.
27	----------	USB cable	A type ↔ mini B

*New service (tool) software. Please refer the use usage of each software as follows.

	VVS0070	VVS0069	VVS0068
Setting & Display	● Clock ● Operation hours ● All Software version ● Zoom Motor count (Display and setting)	● Clock ● Software version (XP Micon and EEPROM only) ● Destination ● UID	-----
EEPROM Back up	● CAM EEPROM ● SYS EEPROM	● XP EEPROM	-----
Camera Adjustment	● Zoom Center value	-----	● Rest of all Camera adjustment
Output level Adjustment	-----	● Component out ● Video out	-----
*SW8	● SYS side	-----	● VTR side
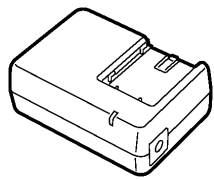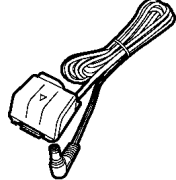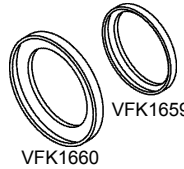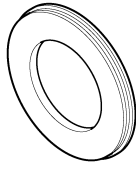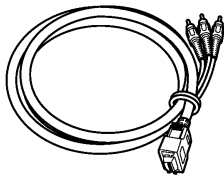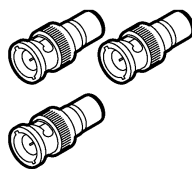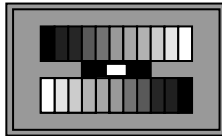
*Setting of SW8 on the Measuring board (VFK1988).

*NOTE1: New service tool
Please consult service department of Professional AV Business unit about purchase.
It is the same as the service tool used by serving the Digital Still Camera.

*NOTE2: New service tool
Please consult service department of Professional AV Business unit about purchase.

1 **VFK1988** Measuring Board	**2** **VFK1989** Extension Cable	**3** ----- RS-232C Cross Cable (9P)	**4** ----- AC Adapter
5 **K2GJ2DC00022** DC Cable	**6** **K2GJ2DC00002** DC Cable	**7** **VFK1341** (LB40) **8** **VFK1347** (LB120) CC Filter	**9** **VFK1884** (LBA2) **10** **VFK1888** (LBB6) **11** **VFK1885** (LBB2) CC Filter
12 **RFKZ0422** Collimator	**13** ----- Collimator Adaptor	**14** **VFK1345** CC Filter Holder **15** **VFK1346** Step Down Ring (62mm - 52mm) VFK1345 VFK1346	**16** **VFK1659** Step-up Ring (43mm - 49mm) **17** **VFK1660** Step-up Ring (49mm - 62mm) VFK1659 VFK1660
18 **VFK1809** 72 mm Attachment Ring	**19** **K2KZ9DB00004** Component Cable	**20** **K2RYYYYY0001** PIN-BNC Conversion Cable	**21** **VFK0645** Grayscale Chart
22 ----- White Chart	**23** **VVS0070** PC EVR Software DOWN LOAD	**24** **VVS0068** Camera Adjustment Software DOWN LOAD	**25** **VVS0069** PC EVR Software DOWN LOAD
26 **VVS0058** USB Driver for Adjustment DOWN LOAD	**27** ----- USB Cable	**28**	

2. Maintenance

2-1. Maintenance Schedule

No.	Part Name	Part No.	Pcs	Replacement
1	Zoom Motor Unit	L6DABBKC0001	1	Every 100,000 number of times (SERVO ZOOM)
				* Please refer to the following procedures.

> The maintenance execution time shown in the above is recommendation for standard maintenance execution. This is not life of various parts. The life is influenced by temperature, humidity, dust, etc..

2-2. Confirmation method of operation number of times

The operation number of times of Zoom Motor is displayed on item **SERVO ZOOM** in DIAGNOSTICS menu screen.

1. Push the button in order of **"RESET/TC SET"** button → **"STOP"** button → **"DISP/MODE CHK"** button → **"MENU"** button.
   NOTE: **"STOP"** button = Push the **OPERATION lever** in the ▼ direction.
2. Push the **OPERATION lever** in the ▲ or ▼ direction to select the **DIAGNOSTICS** menu. And push the **SET(STILL)** button to open the **DIAGNOSTICS** menu.
3. Push the **OPERATION lever** in the ▲ or ▼ direction to display the item **"SERVO ZOOM"**.

DIAGNOSTICS	2/2
ERROR RESET	NO
SERVO ZOOM	000200T
SHUTTLE SPEED	x4
UPDATE	NO
SETUP ⊕_ENTER	EXIT (MENU)

The operation number of times of the zoom motor of the lens unit is displayed.
NOTE: The operation number of times is displayed by every 100 number of times.

The operation number of times can be confirmed also with the PC EVR software. Please refer to **< Display of operation number of times >** of item **"5-4-5. Display of ZOOM MOTOR operation number of times"** about display procedure by PC EVR software (page INF-20).

2-3. Reset of operation number of times

After replacing Zoom Motor unit, set the operation number of times to 0 times.
Please refer to **< Setting of operation number of times >** of item **"5-4-5. Display of ZOOM MOTOR operation number of times"** about setting procedure by PC EVR software (page INF-20).

2-4. Replacement procedure of Zoom Motor unit

The removal procedure has been described to the item **"12. Removal of Zoom Motor Ass'y"** of disassembly procedure (SECTION 2).

3. Lithium battery

3-1. Replacement Procedure

1. Remove the Side Case R S Ass'y.
2. There is a Lithium battery on the RSIDE P.C.Board.

SIDE CASE R S Ass'y

LITHIUM BATTERY

It fixes with adhesives.
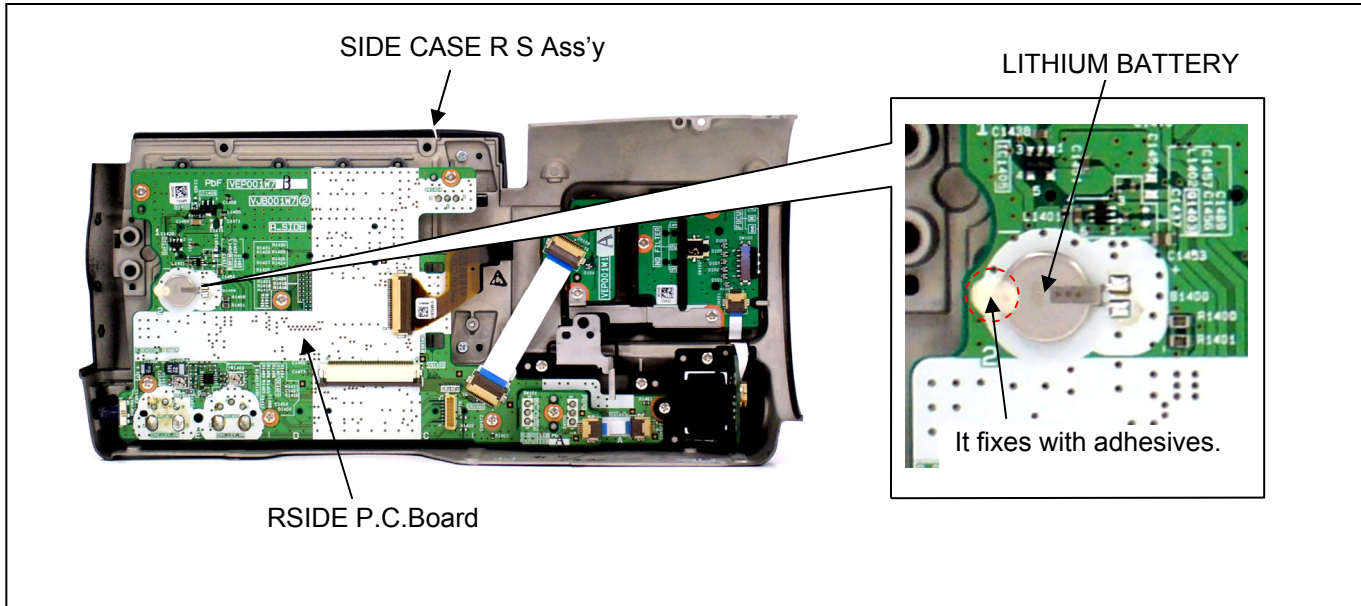
RSIDE P.C.Board

3. Unsolder the each soldering point of electric lead terminal for Lithium battery "Ref No: B1400 at foil side of RSIDE P.C.BOARD) and remove the Lithium battery together with electric lead terminal.
4. Install the new battery.

< NOTE >

Do not touch the (+) and (-) electric lead terminal.
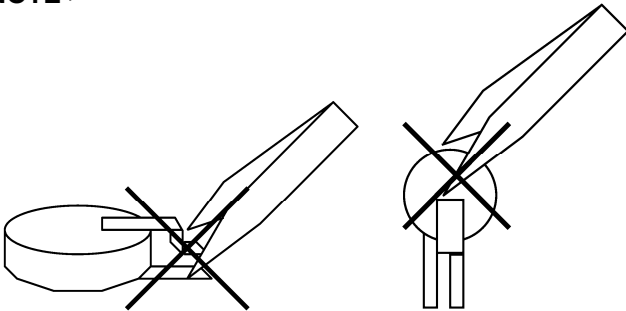
Do not pick up the lithium battery and electric lead terminal with tweezers.
When you use tweezers, use the things of non-conductivity.
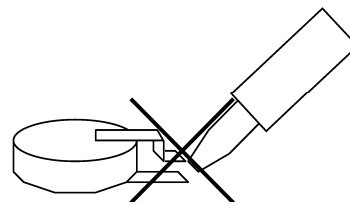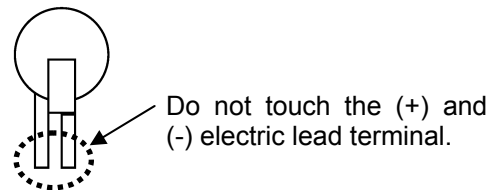
Do not put soldering iron to simultaneous (+) and (-) terminal.

5. Set the date and time of internal clock (Refer to item **"Setting the Calendar"** of operation instructions for the setting method).
    NOTE: A setup date and time of internal clock can be set also on PC EVR software (refer to item **"5-4-1. Setting and confirmation of Date and Time of internal clock(SYSCON(S̲) section)"** and item **"6-3-3. Setup of Date and Time of internal clock"**).

\<INFORMATION\>

DIGITAL MAIN P.C.BOARD

IC1009\<10\>
(REAL TIME CLOCK) ⑪◄──── ◄ +3V_RTC | CN102 | CN1400 | ◄── (LI-BATT)
B1400

RSIDE P.C.BOARD
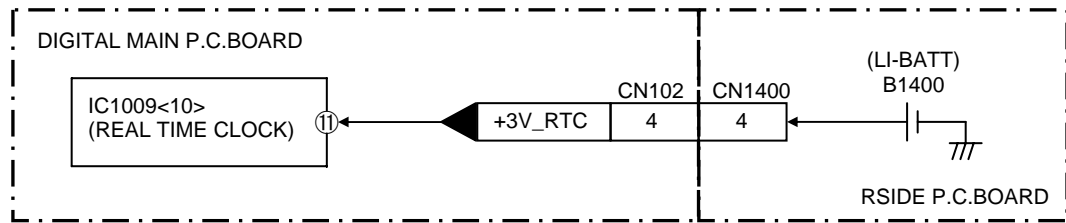
NOTE:
The lithium battery is a critical component.
It must never be subjected to excessive heat of discharge.
It must therefore only be fitted in equipment designed specifically for its use.
Replacement batteries must be of the same type and manufacture.
They must be fitted in the same manner and location as the original battery, with the correct polarity contacts observed.
Do not attempt to re-charge the old battery or re-use it for any other purpose.
It should be disposed of in waste products destined for burial rather than incineration.

CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED.
REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE.

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4. Service menu

This model has DIAGNOSTIC and ADJUST menu as service menu besides the setup menu.

< How to open the DIAGNOSTIC and ADJUST menu >
Press the button in order of **"RESET/TC SET"** button → **"STOP"** button → **"MODE CHK"** button → **"MENU"** button, DIAGNOSTIC and the ADJUST menu can be displayed in addition to a setup menus.

MENU button OPERATION lever

COUNTER-RESET button

DISP/MODE CHK button
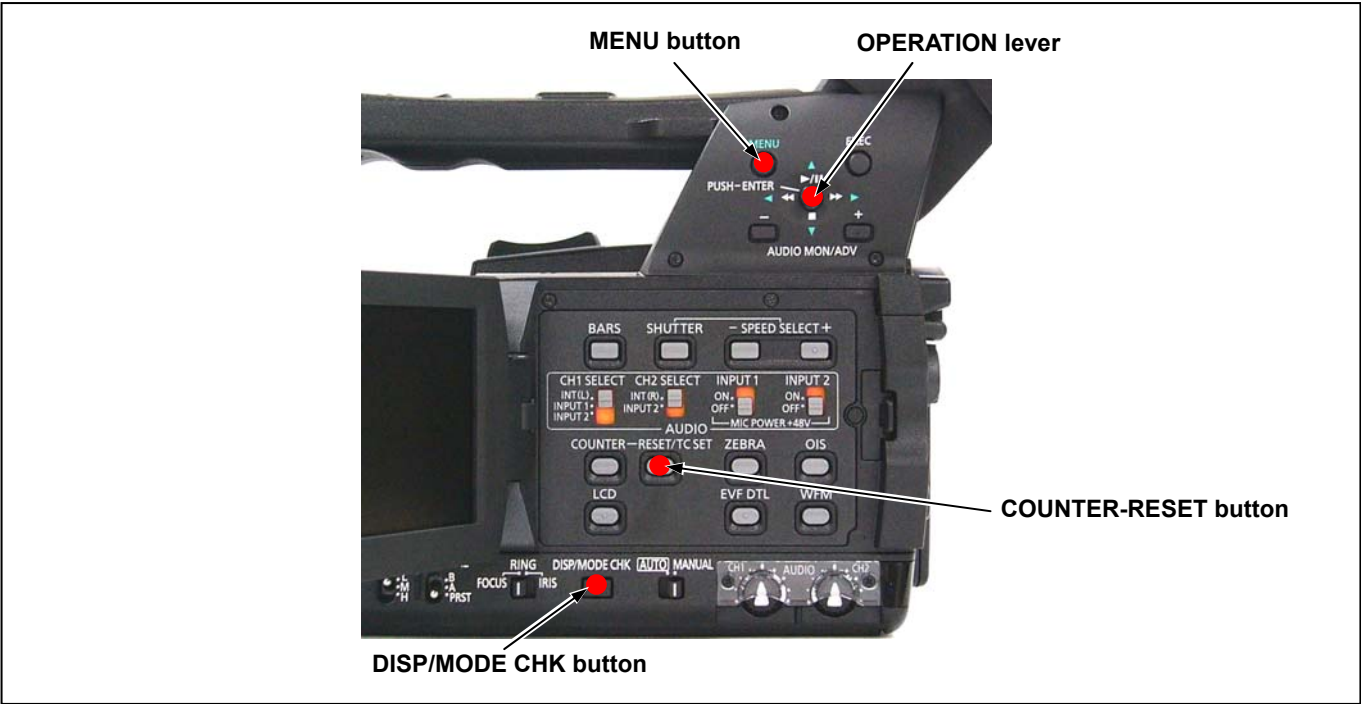
Tilt the **OPERATION lever** in the ▲▼ direction to select the **"DIAGNSTICS MENU"** or **"ADJUST MENU"**, and press the **OPERATION lever** (or tilt ► direction) to open the each menu.

Note: PB mode can not be display the menu

CAM MENU	3/3
OTHER FUNCTIONS	
DIAGNOSTICS MENU	
ADJUST MENU	

SETUP ⬦ ENTER   EXIT MENU

The DIAGNOSTICS menu and the ADJUST menu is displayed on the third page.
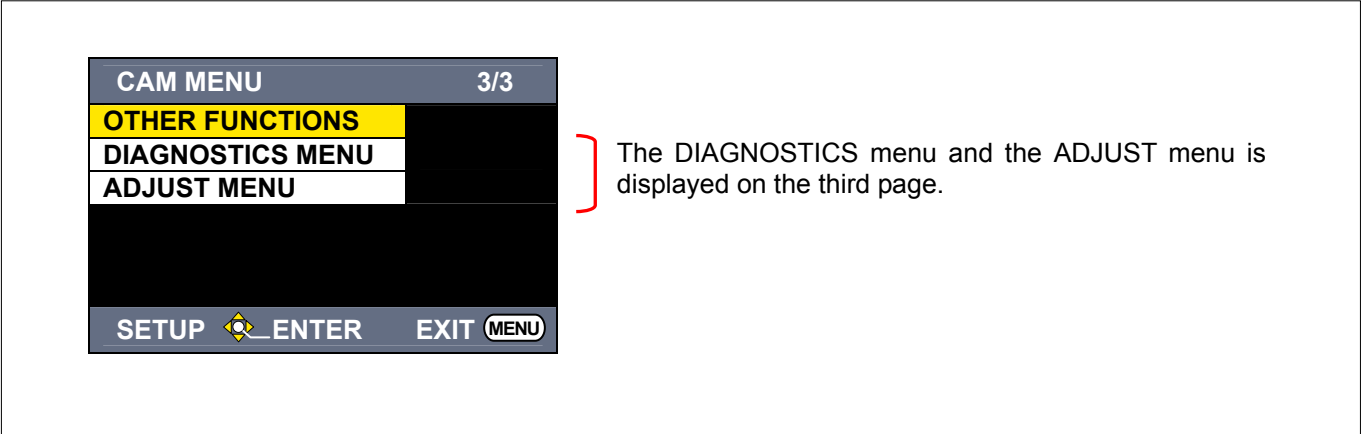
4-1. DIAGNOSTIC menu
4-1-1. Model No., Serial No. Display

Model No. and Serial No. are displayed.

DIAGNOSTICS MENU	2/2
MODEL No.	HMC150P	← Model No. is displayed
SERIAL No.	J8TA00100	← Serial No. is displayed
SOFT VERSION	NO
EEPROM VERSION	NO
1394UID	NO
SETUP ⬦_ENTER	EXIT (MENU)

4-1-2. Software Version Display

Each software version can be confirmed at items **"SOFT VERSION"** and **"EEPROM VERSION"** in DIAGNOSTIC menu.

NOTE: The version of each software and EEPROM can be confirmed also with the **Setting Tool** screen (PC EVR software: **VVS0070**) and PC EVR software(**VVS0069**). Please refer to item **"5-4-3. Software Version Display (SYSCON(S) section)"** (page INF-19) and item **"6-3-5. Software Version Display (XP section)"** (page INF-28).

Type	Name on display	Ref No.	Board
Microprocessor	CAM MICON	IP202	DIGITAL MAIN
	SYS MICON	IP1000	DIGITAL MAIN
	XP MICON	IC1200	DIGITAL MAIN
FLASH	CAM FPGA	IP300	CAMERA
	SYS FPGA	IC508	DIGITAL MAIN
EEPROM	CAM	IP200,201	DIGITAL MAIN
	SYS	IC1013	DIGITAL MAIN
	XP	IP1500	DIGITAL MAIN

SOFT VERSION

1. Tilt the **OPERATION lever** in the ▲▼ direction to select the **"SOFT VERSION"**, and press the **OPERATION lever** (or tilt lever in ► direction)

DIAGNOSTICS MENU	2/2
MODEL No.	HMC150P
SERIAL No.	J8TA00100
SOFT VERSION ▷	**NO**
EEPROM VERSION	NO
1394UID	NO
SETUP ◈_ENTER	EXIT MENU

2. Tilt the **OPERATION lever** in the ▲ direction to select the **"YES"**. And press the **OPERATION lever** to move the SOFT VERSION display screen.

DIAGNOSTICS MENU	2/2
MODEL No.	
SERIAL No.	
SOFT VERSION	**YES**
EEPROM VERSION	NO
1394UID	
SETUP ◈_ENTER	EXIT MENU

⇨

SOFT VERSION	
CAM MICON	: 1.15-00-0.00
CAM FPGA	: 1.03-00-0.00
SYS MICON	: 1.04-00-0.00
SYS FPGA	: 1.01-00-0.00
XP MICON	: 1.05-00-0.00
	EXIT MENU

EEPROM VERSION

1. Tilt the **OPERATION lever** in the ▲▼ direction to select the **"EEPROM VERSION"**, and press the **OPERATION lever** (or tilt lever in ► direction)

DIAGNOSTICS MENU	2/2
MODEL No.	HMC150P
SERIAL No.	J8TA00100
SOFT VERSION	NO
EEPROM VERSION ▷	**NO**
1394UID	NO
SETUP ◈_ENTER	EXIT MENU

2. Tilt the **OPERATION lever** in the ▲ direction to select the **"YES"**. And press the **OPERATION lever** to move the EEPROM VERSION display screen.

DIAGNOSTICS MENU	2/2
MODEL No.	
SERIAL No.	
SOFT VERSION	
EEPROM VERSION	**YES**
1394UID	NO
SETUP ◈_ENTER	EXIT MENU

⇨

EEPROM VERSION	
CAM	: 1.15-00-0.00
SYS	: 1.00-00-0.00
XP	: 1.00-00-0.00
	EXIT MENU

INF-8

4-1-3. 1394 UID Display

On 1394 UID screen, ID product numbers is displayed as AVCHD. The displayed number of 16 figures is **"UID"**.
ex.) 00804582-38837003 (First 8 figures are fixed numbers and last 8 figures are unique numbers).

1. Tilt the **OPERATION lever** in the ▲▼ direction to select the **"1394UID"**, and press the **OPERATION lever** (or tilt lever in ► direction)

DIAGNOSTICS MENU	2/2
MODEL No.	HMC150P
SERIAL No.	J8TA00100
SOFT VERSION	NO
EEPROM VERSION	NO
1394UID ▷	NO
SETUP ◈_ENTER	EXIT (MENU)

2. Tilt the **OPERATION lever** in the ▲ direction to select the **"YES"**, and press the **OPERATION lever** to move the 1394 UID display screen.

DIAGNOSTICS MENU	2/2
MODEL No.	
SERIAL No.	
SOFT VERSION	
EEPROM VERSION	
1394UID	YES
	NO
SETUP ◈_ENTER	EXIT (MENU)

1394UID	
AVCHD :	0080458200000001
	EXIT (MENU)

Note: The UID information can be confirmed also with the PC EVR software (**VVS0069**). Please refer to item **"6-3-2. Write UID data"** (Page INF-25).

4-1-4. Error reset of XP Micon/EEPROM

Note: This item is only use at factory.

DIAGNOSTICS MENU	2/2
ERROR RESET ▷	NO
SERVO ZOOM	000200T
SHUTTLE SPEED	x4
UPDATE	NO
SETUP ◈_ENTER	EXIT (MENU)

4-1-5. Display of ZOOM MOTOR operation number of times

Driving times of Zoom Motor is displayed. (Operation number of times is displayed by every100 times)

DIAGNOSTICS MENU	2/2
ERROR RESET	NO
SERVO ZOOM	000200T
SHUTTLE SPEED	x4
UPDATE	NO
SETUP ☉_ENTER	EXIT (MENU)

← ZOOM MOTOR operation number of times is displayed

Note: Driving times of zoom motor can be confirmed also with the **Setting Tool** screen (PC EVR software: **VVS0070**). Please refer to item **"5-4-5. Display of ZOOM MOTOR operation number of times (CAM(C) section)"** (Page INF-20)

4-1-6. SHUTTLE SPEED Select

Shuttle speed can be changed.
1. Tilt the **OPERATION lever** in the ▲▼ direction to select the **"SHUTTLE SPEED"**, and press the **OPERATION lever** (or tilt lever in ► direction).

DIAGNOSTICS MENU	2/2
ERROR RESET	NO
SERVO ZOOM	000200T
SHUTTLE SPEED ▷	x4
UPDATE	NO
SETUP ☉_ENTER	EXIT (MENU)

2. Tilt the **OPERATION lever** in the ▲▼ direction to select the **"x4 or x16"**. And press the **OPERATION lever** to value is fixed. (Factory setting is set to x4)

DIAGNOSTICS MENU	2/2
ERROR RESET	
SERVO ZOOM	
SHUTTLE SPEED	x4
UPDATE	x16
SETUP ☉_ENTER	EXIT (MENU)

4-1-7. Update

This item is only use at factory. Don't execute the item UPDATE!. If UPDATE is executed, camera recorder can not operate.

DIAGNOSTICS MENU	2/2
ERROR RESET	NO
SERVO ZOOM	000200T
SHUTTLE SPEED	x4
UPDATE ▷	NO
SETUP ☉_ENTER	EXIT (MENU)

4-2. ADJUST menu

NOTE: Please do not change the setting of the items of "CAM DEBUG MODE" and "DARK MODE". These items are for factory use only.

4-2-1. Adjustment item for Video Level

Y LEVEL
Y level of VIDEO OUT signal can be adjusted on this item.
The setting value is the same as value for Luminance level in Video Terminal Output Level adjustment (EVR).

C LEVEL
C level of VIDEO OUT signal can be adjusted on this item.
The setting value is the same as value for Chroma level in Video Terminal Output Level adjustment (EVR).

CMPNT Y LVL
Component Y level of COMPONENT OUTPUT signal can be adjusted on this item.
The setting value is the same as value for Component Y level in D-Terminal Output Level adjustment (EVR).

CMPNT PB LVL
Component PB level of COMPONENT OUTPUT signal can be adjusted on this item.
The displayed value is the same as value for Component PB level in D-Terminal Output Level adjustment (EVR).

CMPNT PR LVL
Component PR level of COMPONENT OUTPUT signal can be adjusted on this item.
The displayed value is the same as value for Component PR level in D-Terminal Output Level adjustment (EVR).

4-2-2. Adjustment method for Video Level

1. Tilt the **OPERATION lever** in the ▲▼ direction to select the adjustment item, and press the **OPERATION lever** (or tilt lever in ► direction). And press the **OPERATION lever** again.
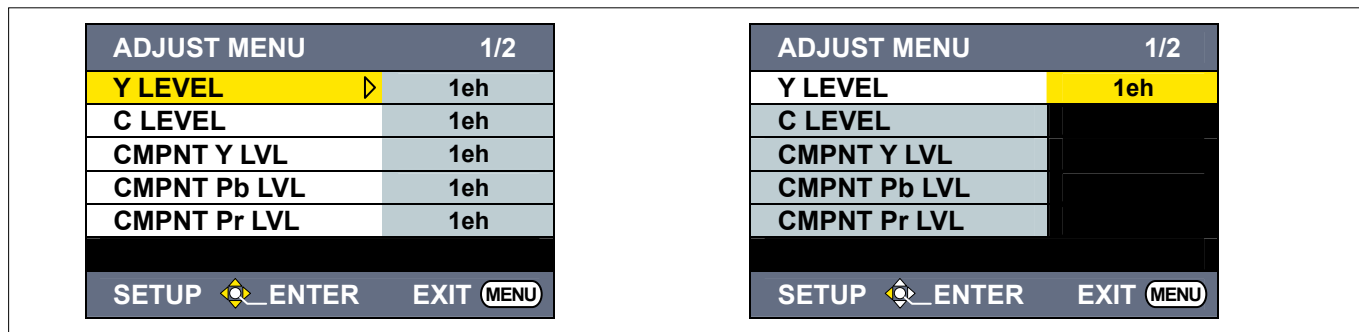
2. Tilt the **OPERATION lever** in the ► direction so that the adjustment bar is appeared. And adjust by tilt the **OPERATION lever** in the ◄► direction.
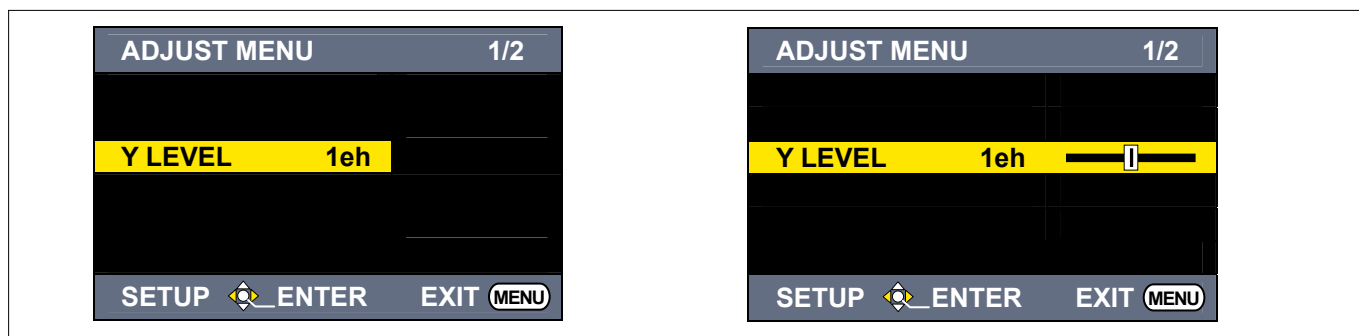
4-2-3. LCD Correction
LCD OFFSET
1. Tilt the **OPERATION lever** in the ▲▼ direction to select the **"LCD OFFSET"**, and press the **OPERATION lever** (or tilt lever in ► direction)

DIAGNOSTICS	2/2
LCD OFFSET ▷	OFF
EVF OFFSET	OFF
CAM DEBUG MODE	0
DARK MODE	ON
SETUP ENTER	EXIT (MENU)

2. Tilt the **OPERATION lever** in the ▲▼ direction to select the correction level, and press the **OPERATION lever** to value is fixed.

DIAGNOSTICS	2/2
LCD OFFSET	OFF
EVF OFFSET	1
CAM DEBUG MODE	2
DARK MODE	
SETUP ENTER	EXIT (MENU)

R signal output to LCD is corrected.
1: Correction level 1
2: Correction level 2

4-2-4. EVF Correction
EVF OFFSET
1. Tilt the **OPERATION lever** in the ▲▼ direction to select the **"EVF OFFSET"**, and press the **OPERATION lever** (or tilt lever in ► direction)

DIAGNOSTICS	2/2
LCD OFFSET	OFF
EVF OFFSET ▷	OFF
CAM DEBUG MODE	0
DARK MODE	ON
SETUP ENTER	EXIT (MENU)

2. Tilt the **OPERATION lever** in the ▲▼ direction to select the correction level, and press the **OPERATION lever** to value is fixed.

DIAGNOSTICS	2/2
LCD OFFSET	
EVF OFFSET	OFF
CAM DEBUG MODE	1
DARK MODE	2
SETUP ENTER	EXIT (MENU)

R signal output to EVF is corrected.
1: Correction level 1
2: Correction level 2

5. PC EVR software (VVS0070)

5-1. Required tools and equipment for PC EVR software

When the PC EVR software is used, the following tools are required.

NAME	Part Number	Pcs.	Remark
PC EVR software	VVS0070	1	Download from the Global Service WEB site.
Measuring board	VFK1988	1	
Extension cable	VFK1989	1	
DC cable	K2GJ2DC00002 or VJA1128	1	For Measuring board
DC cable	K2GJ2DZ00022	1	For Camera Recorder
AC Adaptor	DE-A35BA (For P model)	2	For Camera Recorder and Measuring board
	DE-A35CA (For E,EN and ER model)		
	DE-A35DA (For MC model)		
	DE-A35EA (For AN model)		
9pin RS232C cross cable	---	1	
Personal Computer	---	1	*NOTE:

*OS: WINDOWS XP SP2

5-2. Connection

1. Unless otherwise specified, set the switches on the Measuring Board as shown in the table below.

NAME	SETTING POSITION
SW5	CROSS
SW6	D-SUB
SW7	NORMAL
SW8	**SYS**
SW31	NORMAL
SW32	NORMAL
SW41	ON
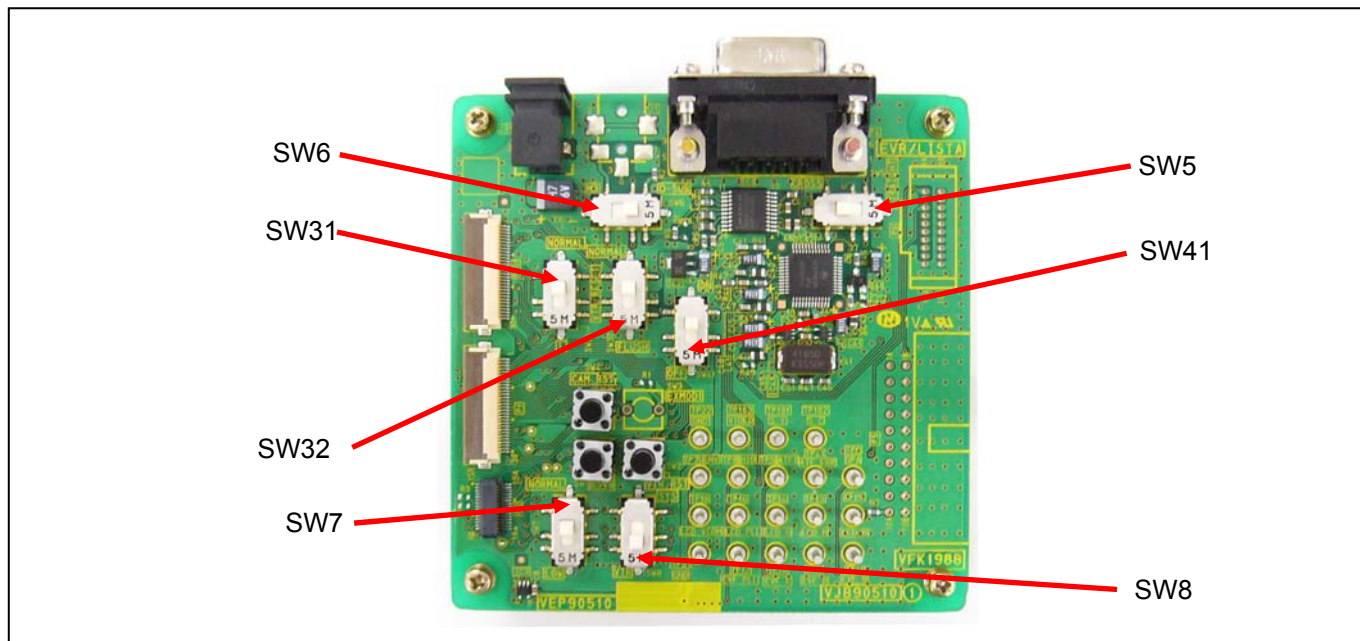
2. Unscrew the 3 screws (A) as shown in figure and remove the REAR SIDE COVER.

SCREW (A)

SCREW (A)

REAR SIDE COVER

3. Connect the Extension Cable (VFK1989) to connector P2 on Measuring Board (VFK1988).

VFK1989

P2

Connect VFK1989 with connector P2
as shown in picture.
The unit will not work if the
connector is attached backwards.
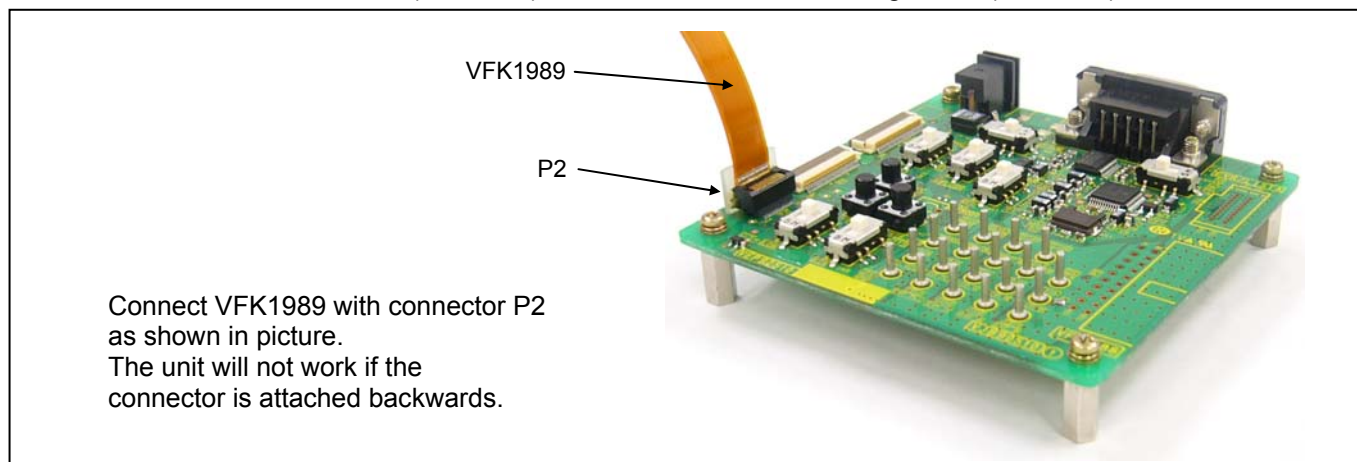
4. Connect the Extension Cable (VFK1989) to EVR connector in Unit. Then make sure that the direction of the VFK1989 is correct as shown in Figure.

When the VFK1989 is connected to EVR connector, be careful of the direction of connector on VFK1989. Please follow as shown in the figure.

EVR CONNECTOR
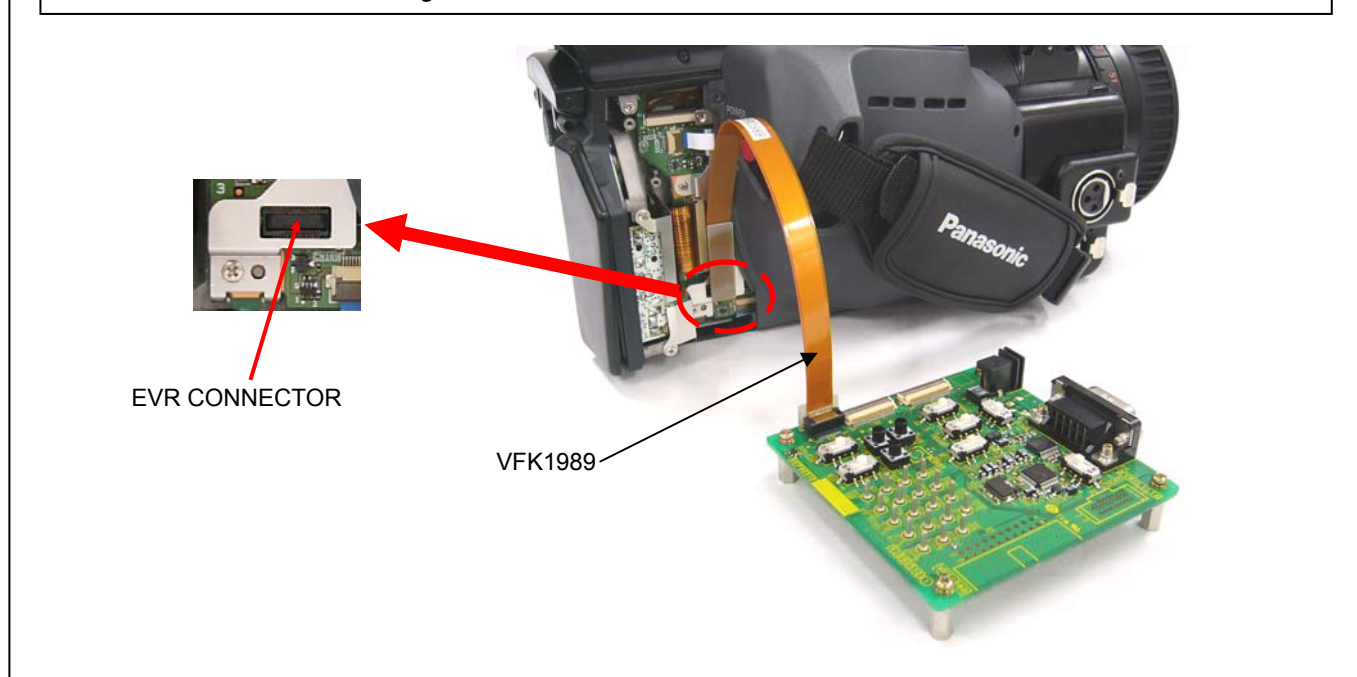
VFK1989

5. Supply DC6V-9V to the Measuring Board (VFK1988). Please use the DC cable and AC Adapter to supply DC voltage to Measuring Board.
6. Connect a 9 pin RS-232C cross cable between the Measuring Board and RS-232C connector on Personal Computer as shown in Figure.

AC Adapter

VFK1989

AC Adapter

VFK1988

RS232C cross cable

This cable connect to serial port of PC.
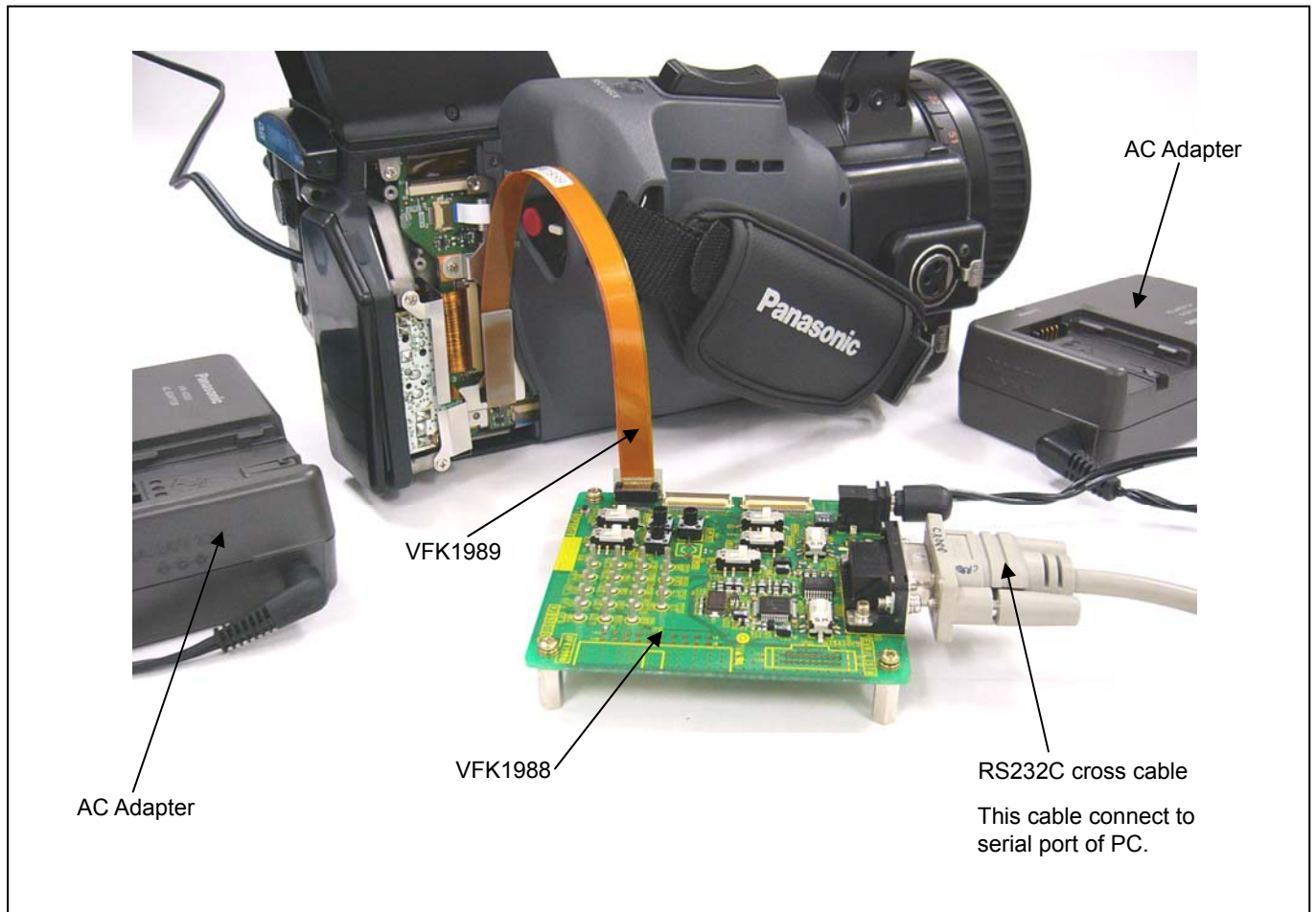
5-3. Setup of PC EVR software

1. Copy all files of the PC EVR software **(VVS0070)** to the PC.
2. Supply power to the Camera-Recorder and turn power ON.
3. This camera recorder is set to **"CAM"** mode.
4. Start up the PC EVR software by double-clicking **"VVS0070.exe"**. The following screen will appear.

NOTE: VVS0070 corresponds to AG-HVX200/A series, AG-HPX500 series and AG-HPG10. The model can be selected on the following screen.
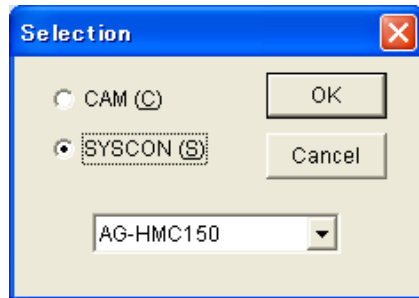
5. Select the **"CAM(C)"** or **"SYSCON(S)"** according to the purpose and click **"OK"** button. The following screen will appear and when communication between the PC and the Camera-Recorder has been succeeded, blue is displayed to the status lamp.

STATUS LAMP

SYSCON section screen
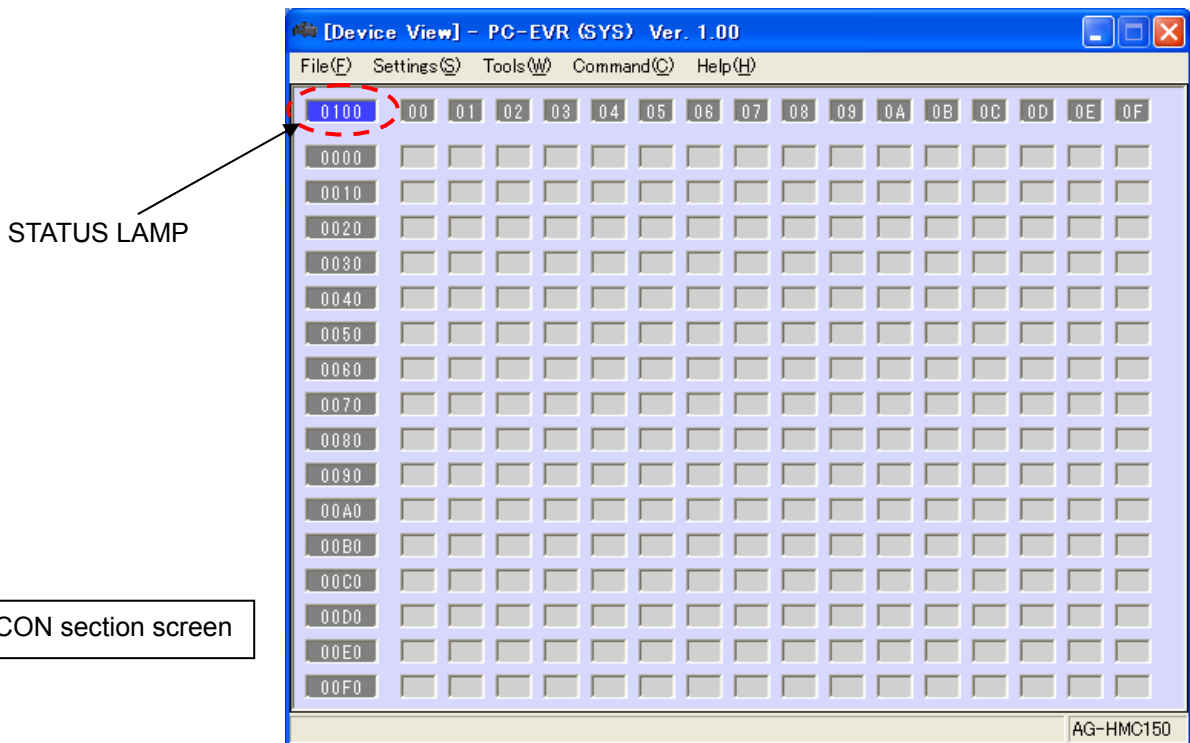
6. The communication status between the PC and the Camera-Recorder can be confirmed with the status lamp as following color.

Not Connected　:　black
Connected　　　:　blue
Reading　　　　:　green
Writing　　　　:　red

5-4. Setting Tool screen

This PC EVR software has **Setting Tool** screen in **"SYSCON(S)"** and the **"CAM(C)"** section. The operation number of times of ZOOM MOTOR can be reset on the Setting Tool screen on the **"CAM(C)"** section.

< How to display the Setting Tool screen. >
1. Select **"SYSCON(S)"** or **"CAM(C)"** section after start up the PC EVR software, and click **"OK"** button.
2. Select **"Setting Tool"** in **"Tools(W)"** menu, **Setting Tool** screen will appear on screen.

< Function of the Setting Tool screen. >
The following confirmation and the setup can be performed on a **Setting Tool** screen.
● Setting and confirmation of Date and Time of internal clock.
● Hour Meter display (operation hours).
● Software version display (CAM/SYS).
● Power supply reboot.
● Display and reset of ZOOM MOTOR operation number of times (**"CAM(C)"** section).
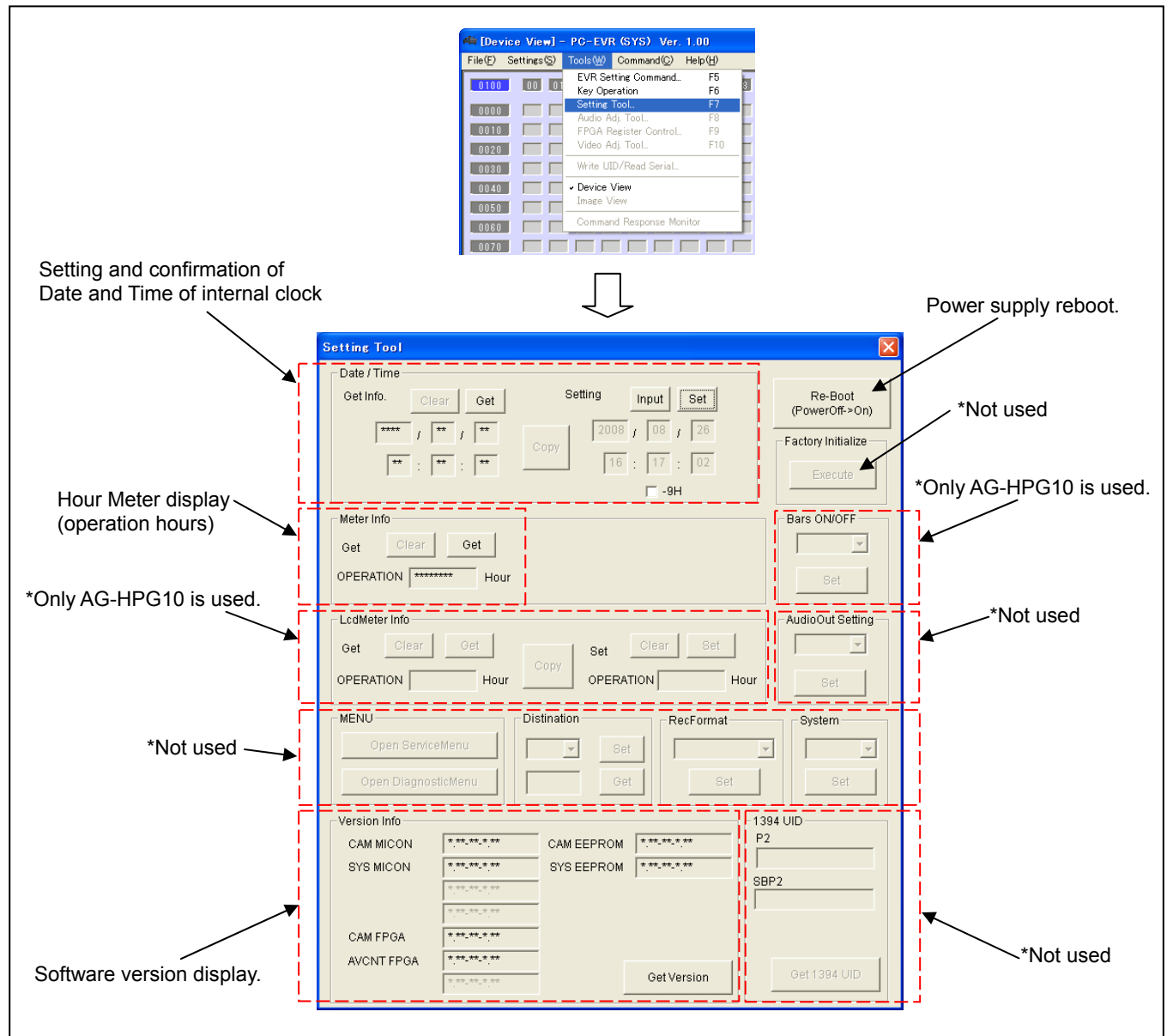
5-4-1. Setting and confirmation of Date and Time of internal clock(SYSCON(S) section)

< Confirmation method >

1. Clicking **"Get"** button, the date/time information in camera recorder is displayed.
2. Clicking **"Clear"** button, the displayed date/time is cleared. Clock information on the camera recorder is not cleared.
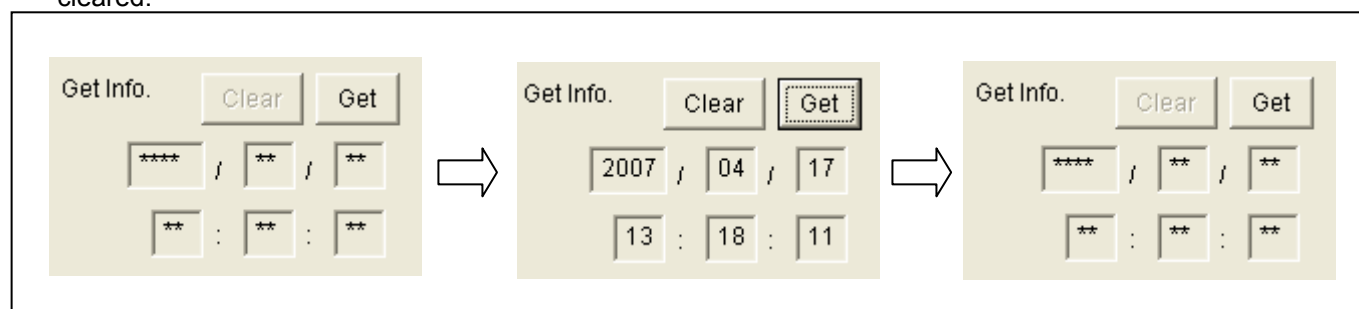
< Setting method >

1. The date/time information of PC is displayed in the window as shown in following figure on real time.
2. When the **"Input"** button is clicked, a date and time will be fixed on the **Setting Tool** screen (When the **"Input"** button is clicked again, it will return to a real-time display.). And the window to enter date/time becomes valid.
3. Confirm that the date/time is displayed on the LCD panel (DISPLAY SETUP menu → DATE/TIME → TIME&DATE).
4. Clicking **"Set"** button, clock is set in a camera recorder follow the set up on the **Setting Tool** screen. In case of data/time is not input to window (gray window), clock information of PC is set. After click **"Set"** button, see the display on LCD panel to confirm the date/time display have changed.

NOTE: In case of put the check in box **"-9H"**, the time of -9 hour from the time displayed on the **Setting Tool** is set.

Real time display
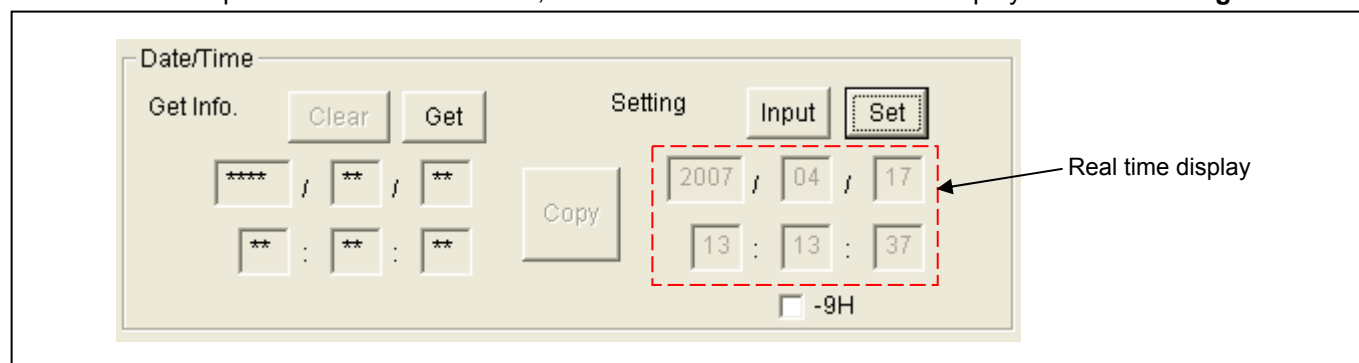
NOTE: A setup of the date and time of internal clock can be set also with the OTHER FUNCTIOM menu (Refer to the procedure of operation instructions for the setting method) and PC EVR software for AG-HMC150 series (refer to item **"6-3-3. Setup of Date and Time of internal clock"** (page INF-26).

5-4-2. Hour Meter Display(SYSCON(S) section)

1. Clicking **"Get"** button, total operation hours is displayed.
2. Clicking **"Clear"** button, the display is cleared. The time information of camera recorder is not cleared.

NOTE: The OPERATION hours can be confirmed also with the OTHER FUNCTIONS menu. Refer to operation instructions.
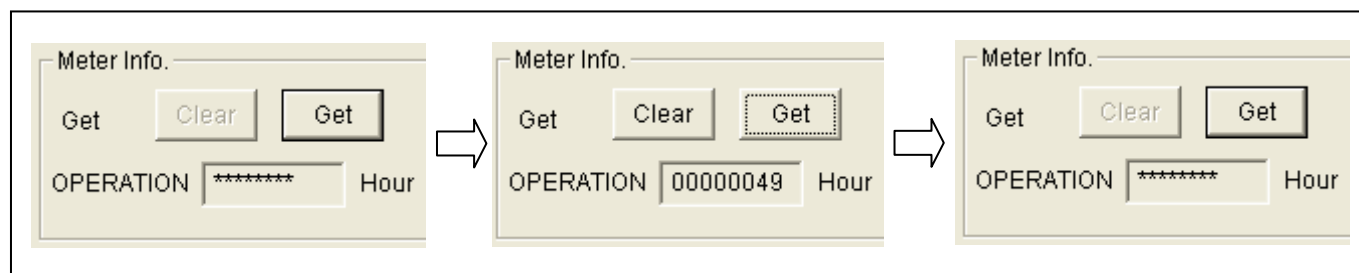
5-4-3. Software Version Display(SYSCON(<u>S</u>) section)

1. Clicking **"Get Version"** button, version information of CAM/SYS software and EEPROM are displayed.
2. The version of all software and EEPROM can be confirmed by the DIAGNOSTICS menu menu. Please refer to item **"4-1-2. Software Version Display"** (page INF-7).

```
┌─ Version Info ─────────────────────────────────────────────┐
│                                                            │
│   CAM MICON    1.0F-00-0.00      CAM EEPROM   1.0F-00-0.00  │
│                                                            │
│   SYS MICON    1.05-00-0.00      SYS EEPROM   1.00-07-0.00  │
│                * **-**-*-**                                 │
│                * **-**-*-**                                 │
│                                                            │
│   CAM FPGA     1.03-00-0.00                                 │
│                                                            │
│   AVCNT FPGA   1.01-00-0.00                   ┌──────────┐  │
│                * **-**-*-**                   │Get Version│ │
│                                               └──────────┘  │
└────────────────────────────────────────────────────────────┘
```
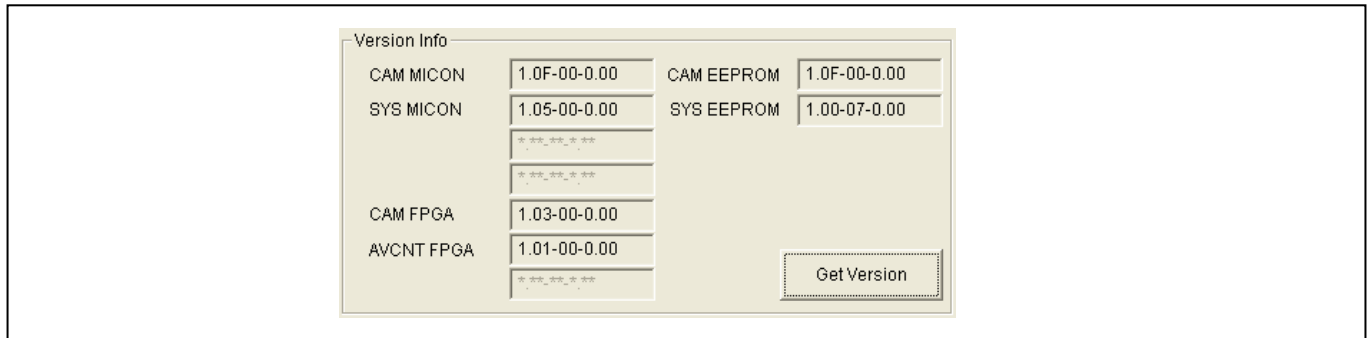
5-4-4. Power supply reboot(SYSCON(<u>S</u>) section)

1. Clicking **"Re-Boot"** button, the power of camera recorder automatically OFF and ON.

```
            ┌─────────────────────┐
            │                     │
            │      Re-Boot        │
            │   (PowerOff->On)    │
            │                     │
            └─────────────────────┘
```
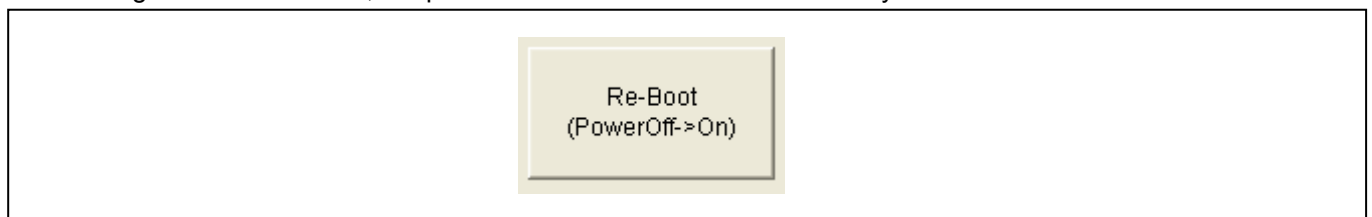
5-4-5. Display of ZOOM MOTOR operation number of times(CAM(C) section)

Getting information of operation number of times and setting ZOOM MOTOR operation number of times are possible.

< Display of operation number of times >

1. Clicking **"Get"** button, total operation number of times is displayed in the window.
2. Clicking **"Clear"** button, the display is cleared. The number of time information of camera recorder is not cleared.
3. The operation number of times can be confirmed also with the ADJUST menu. Please refer to item **"4-1-5. Display of ZOOM MOTOR operation number of times"** (page INF-10).
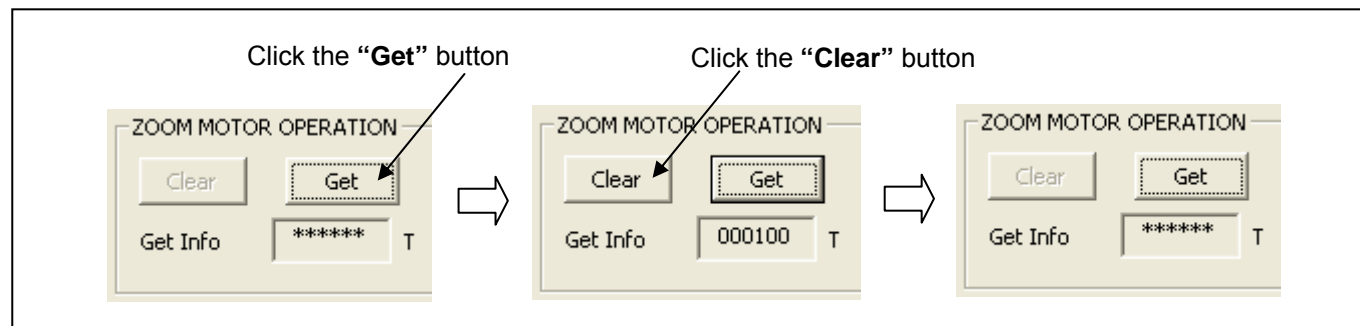
< Setting of operation number of times >

1. The numerical value(number of times) that wants to be set can be set to the input window. Clicking **"Set"** button, the following massage is displayed.
   NOTE: The operation number of times can be set only by 100 units.
2. When the power supply (DC power supply) on the AC adaptor side is OFF and ON, the setting time is written in the camera recorder.
3. Clicking **"Clear"** button.
4. Click **"Get"** button to confirm that the setting time is displayed.
NOTE: When replacing ZOOM MOTOR unit, set 0 times.
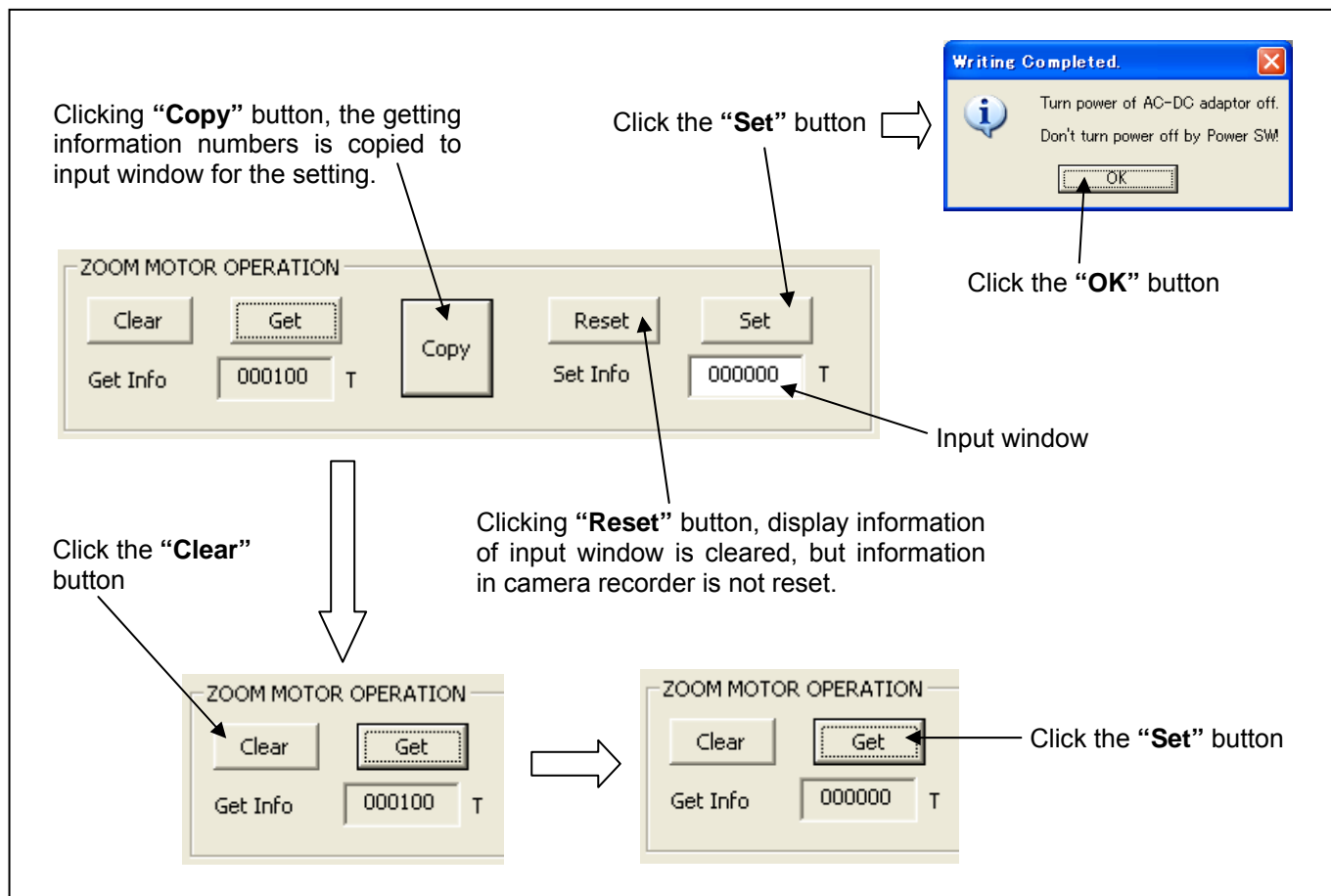
6. PC EVR software (VVS0069)

6-1. Required tools and equipment for PC EVR software

When the PC EVR software is used, the following tools are required.

NAME	Part Number	Pcs.	Remark
PC EVR software	VVS0069	1	Download from the Global Service WEB site.
USB driver	VVS0058	1	Download from the Global Service WEB site. Same driver as DVD-CAM, DVC-CAM
USBC cable A type ↔ mini B	---	1	
Personal Computer	---	1	***NOTE:**

*OS: Windows XP SP2

6-2. Setup
6-2-1. Installation method of USB driver (VVS0058)
This work is not necessary if USB driver for DVD/DVC-CAM adjustment has already installed.
1. Download the file **"USB Driver for Adjustment (VVS0058)"** from Global Service WEB Site.
2. After extracting **VVS0058.zip**, execute **"USB_COM.exe"** in VVS0058.
3. Execute **"setup.exe"** in **"ComMass"** folder. Install it according to the message.
4. This camera recorder is set to **COM** mode.
< Setting method of COM mode >
4-1. Turn the power on and confirm camera recorder is set to CAM mode.
4-2. The **COM** mode is set by hold down the **"STOP (Tilt the Operation lever in the ▼directions)"**, **"EXEC"** button and **"WFM"** button at the same time for three second or more. (The letter of "COM" blinks to the LCD screen when the COM mode is set.)
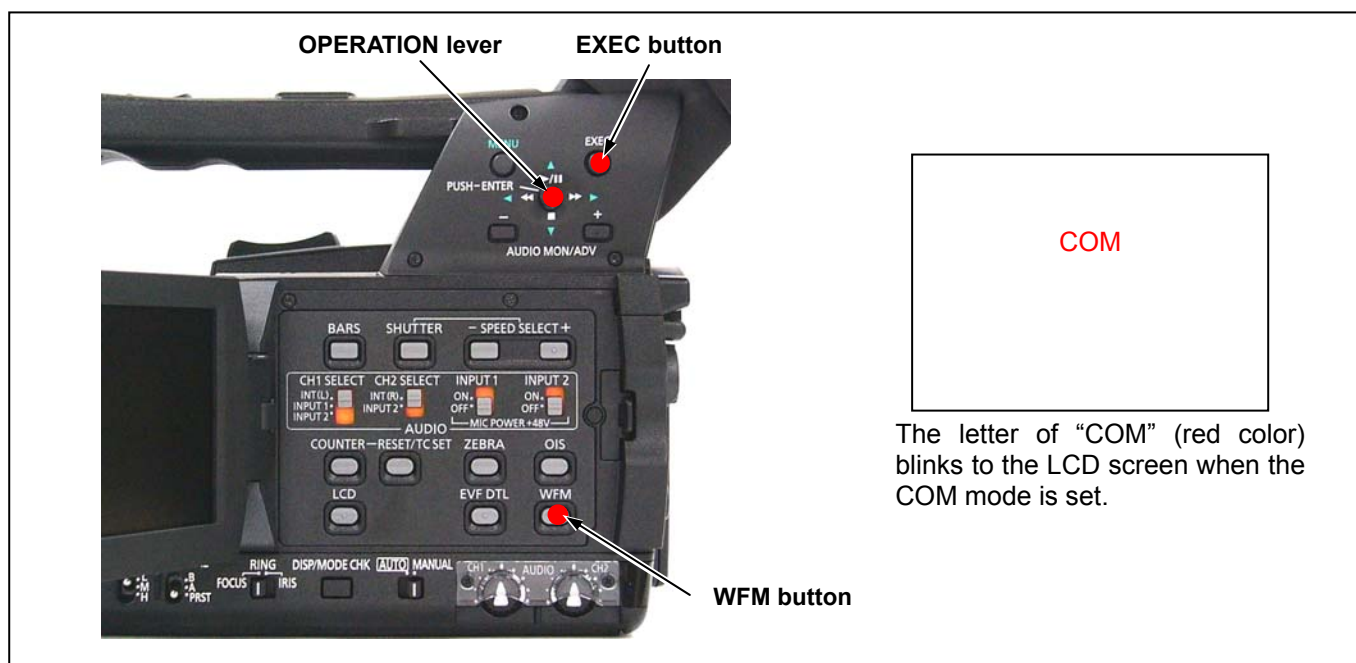
OPERATION lever   EXEC button

COM

The letter of "COM" (red color) blinks to the LCD screen when the COM mode is set.

WFM button

NOTE: To cancel the COM mode, execute the operation of the same button as the setting. (Com mode cannot be cancel if the power has been switched off and back on again)

5. Connect the USB cable between camera recorder and PC.

USB cable

A type   Mini-B

USB 2.0
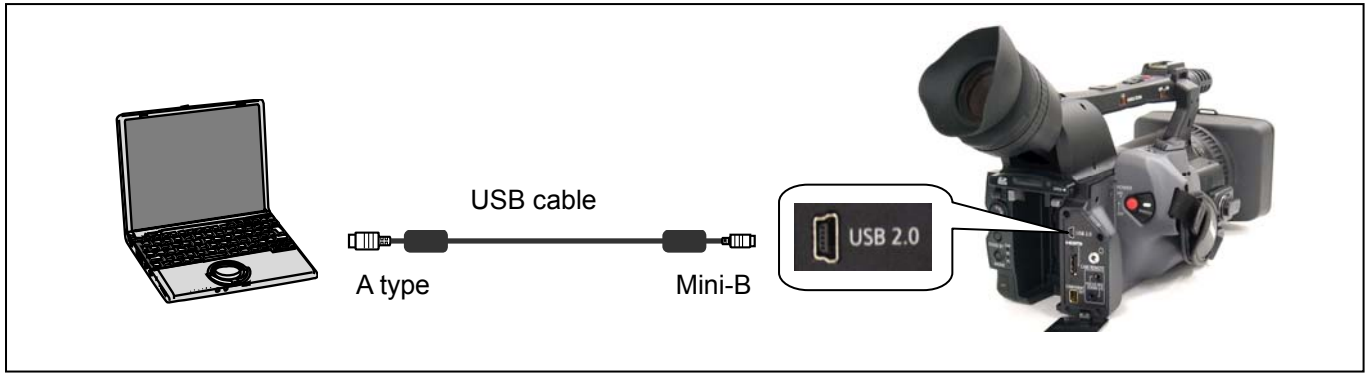
6. **"Found New Hardware Wizard"** automatically opens on PC. Install it according to the message.

6-2-2. Setup for PC EVR Software

1. Download the file **"PC EVR Software for AG-HMC150 series (VVS0069)"** from Global Service WEB Site.
2. Turn the power on and confirm camera recorder is set to CAM mode.
3. Hold down **"STOP (Tilt the Operation lever in the ▼directions)"**, **"EXEC"** button and **"WFM"** button simultaneously for at the three seconds to set COM mode. (The letter of "COM" blinks to the LCD screen when the COM mode is set.)
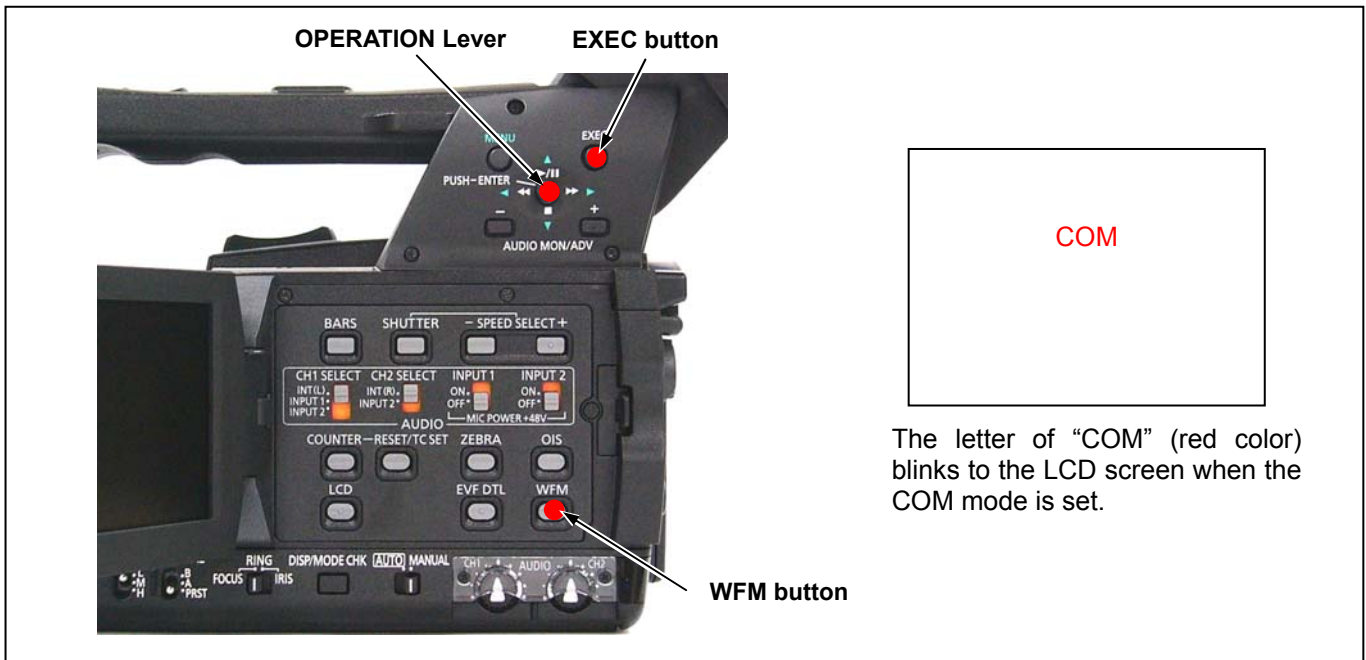
OPERATION Lever   **EXEC button**

WFM button

COM

The letter of "COM" (red color) blinks to the LCD screen when the COM mode is set.

NOTE: To cancel the COM mode, execute the operation of the same button as the setting. (Com mode cannot be cancel if the power has been switched off and back on again)

4. Connect the USB cable between camera recorder and PC.

USB Cable

A type   Mini-B

USB 2.0
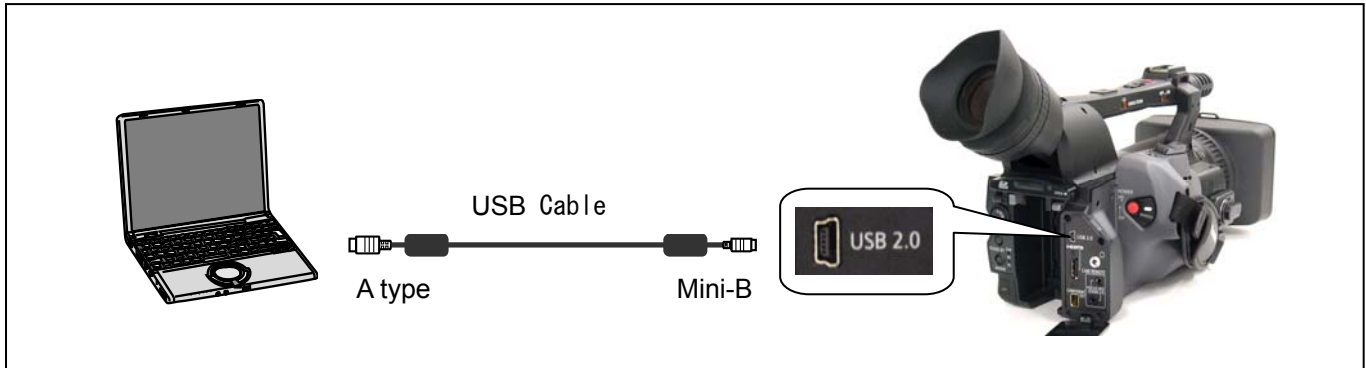
5. Start up the PC EVR software by double-click **"VVS0069.exe"**.

6. Select the model in **"Select Model"** box and click **"Start(S)"** button on **Start Communication** screen.
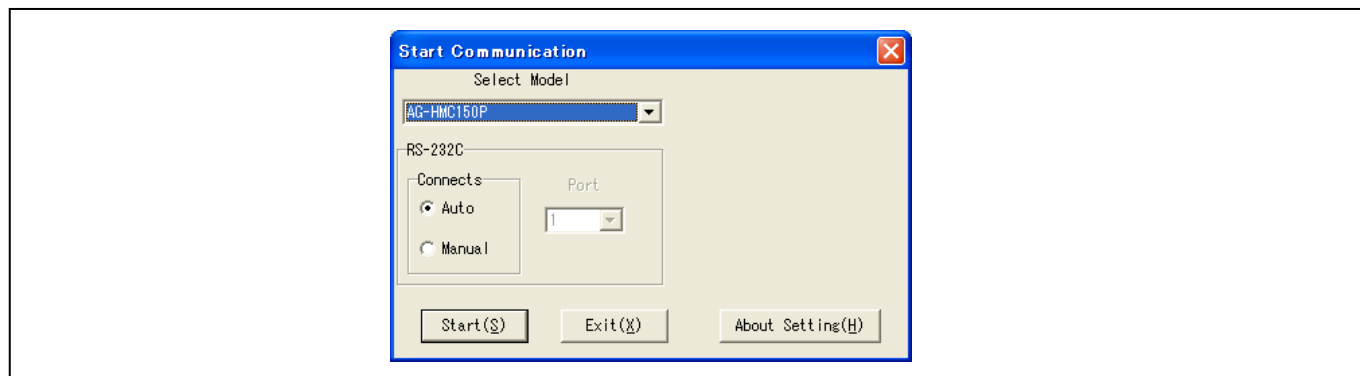
7. When you backup the EEPROM data, click **"Arm"** button. (Go to step 8)   When you do not backup the EEPROM data, click **"Next"** button. (Go to step 10)
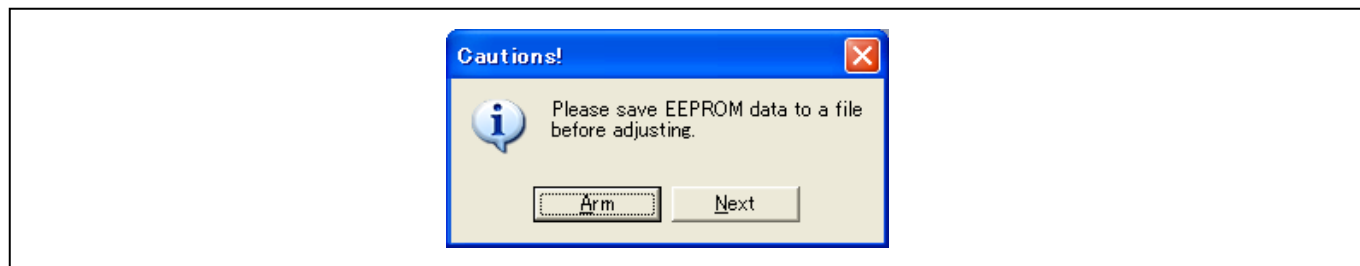
8. When the **"Arm"** button is clicked, **Input file name** screen appears to saving data. After confirming the file name, click **"Save"** button on **Input file name** screen. While saving data, progress bar is displayed. When **"OK(O)"** button is displayed, data saving is complete.
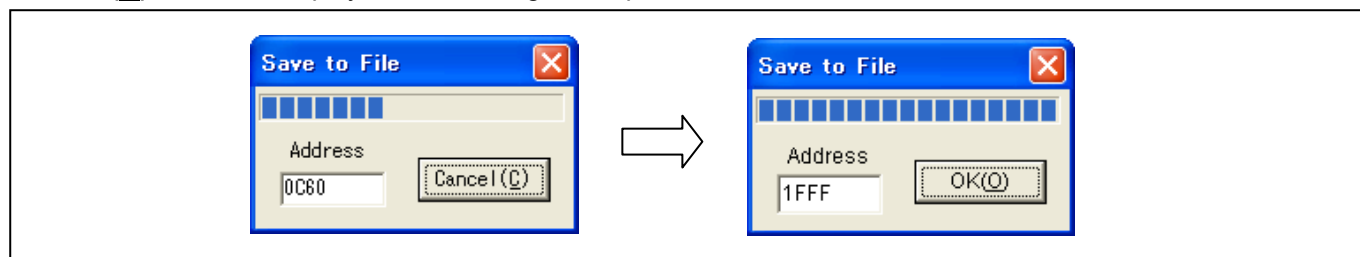
9. Clicking **"OK(O)"** button, the screen of Step 7 is displayed again. Click **"Next"** button to open the main screen.
10. Main screen is displayed.
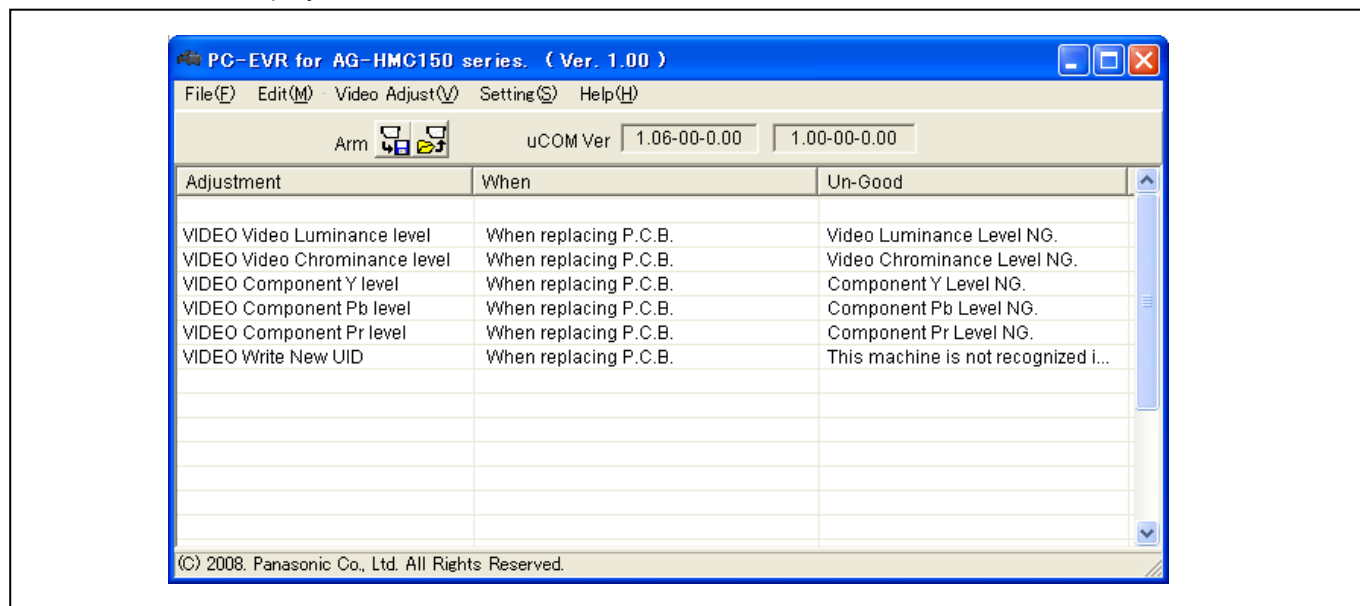
6-3. PC EVR Software operation

< Function of PC EVR Software >

The following confirmation and the setup can be performed by PC EVR software (VVS0069)

● Setting of destination
● Write UID data
● Setting of data and Time of internal clock
● Factory initialize
● Software Version Display (XP section)
● Save and write EEPROM (XP section) → Please refer to item **"7. Save and write EEPROM data"** (page INF-29)
● VIDEO Level adjustment→ Please refer to item **"2. Adjustment procedure"** on Section 3 (Electrical Adjustment)

6-3-1. Setting of destination

NOTE: For AG-HMC151E model, "Setting of destination" is not required.

1. Select **"Editing the ARM memory (E)"** in **"Edit (M)"** menu.
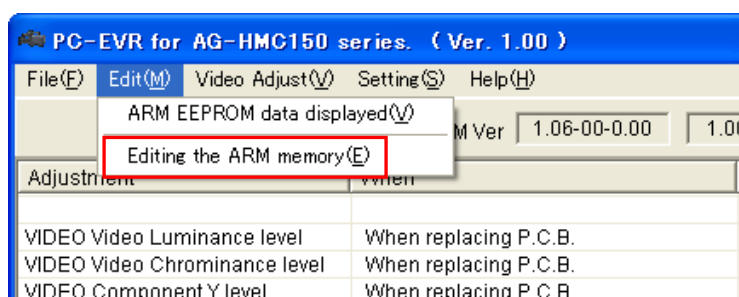
2. Set it as follows and click **"Execute(E)"** button on ARM Edit Memory screen.

[CMD (Command)]: **Write 1byte**   [ADRS (Address)]: **"0052"**
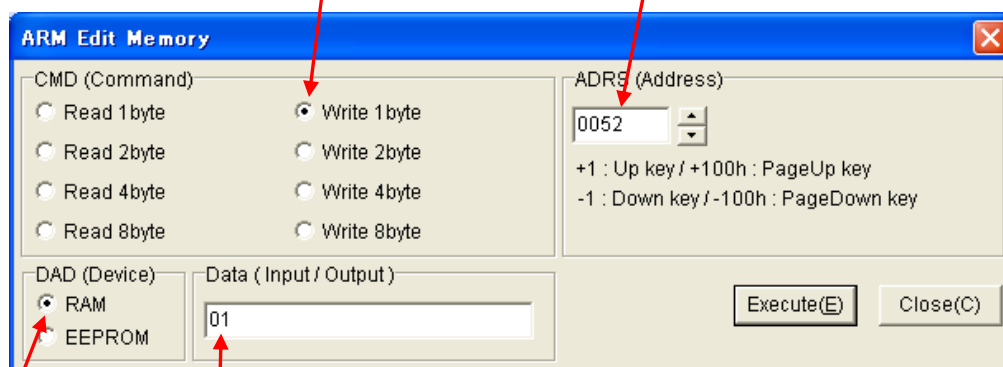
[DAD (Device)]: **RAM**

[Data (Input/Output)]

Destination	P	AN	EN	ER	MC
Setting value	01	0C	81	83	03

ADRS (Address)	**0052**
CMD (Command)	**Write 1byte**
DAD (Device)	**RAM**

3. Clicking **"Execute(E)"** button, a message **"TURN POWER OFF"** appears on LCD display. Turn power off this camera recorder.
NOTE: When the message of "**TURN POWER OFF"** is not displayed, the destination setting is not completed.
4. Turn power ON of this camera recorder and open the DIAGNOSTIC menu.
5. Confirm that the MODEL NO is displayed as follows.

Set Destination	MODEL NO
P	HMC150P
AN	HMC150AN
EN	HMC152EN
ER	HMC154ER
MC	HMC153MC

6-3-2. Write UID data
1. Select **"Write New UID(E)"** in **"Videi Adjust(V)"** menu or double-click **"VIDEO Write New UID"** on Adjustment item.
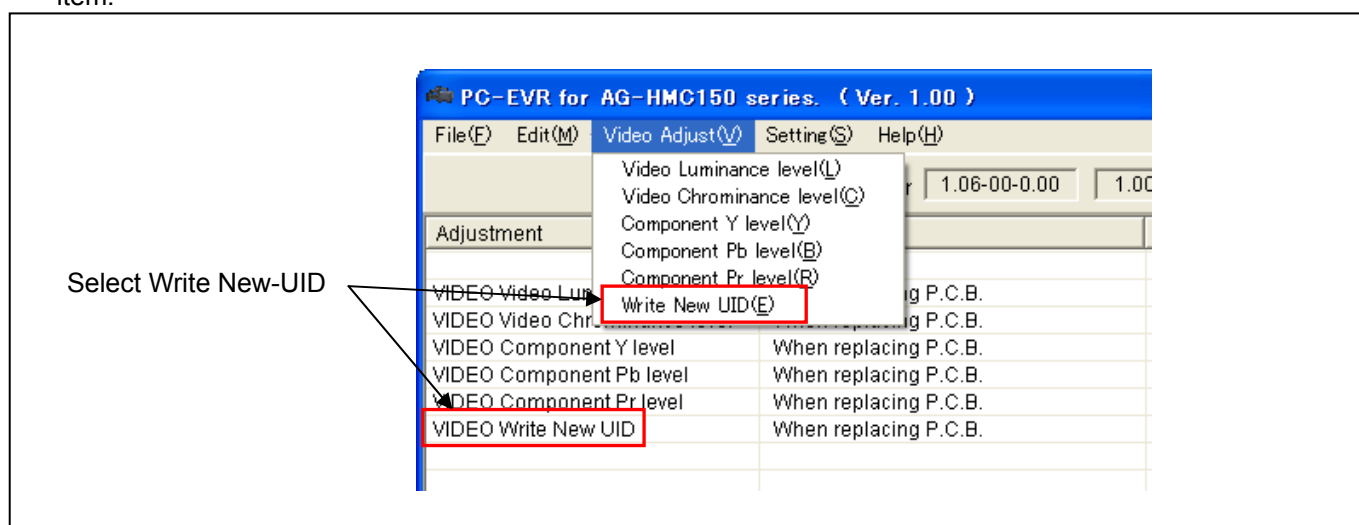
2. Click **"Write(W)"** button, so that the new UID information is wrote to camera recorder automatically.
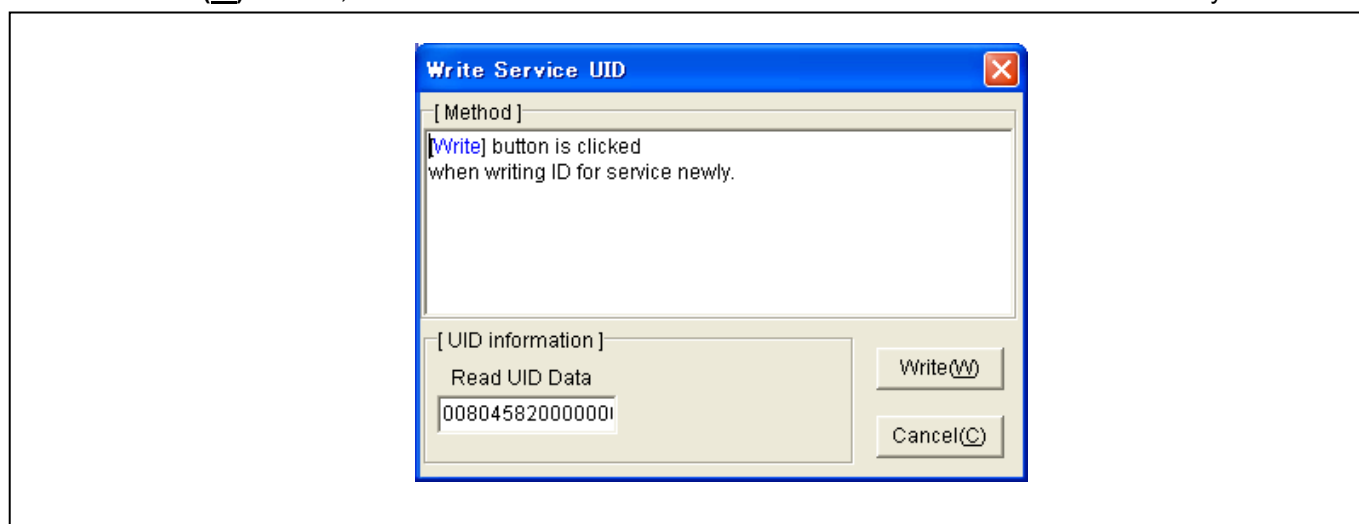
3. Turn the power OFF.

6-3-3. Setup of Date and Time of internal clock

1. Select **"Calendar and Clock set up (C)"** in **"Setting(S)"**.
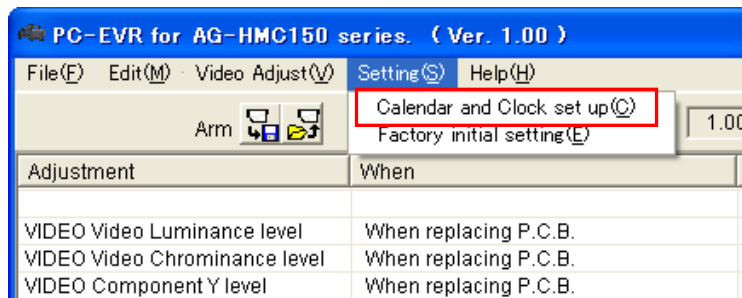
2. The date/time information of PC is displayed on **Set calendar and clock** screen.
3. Clicking **"Write(W)"** button, a date and time information is set in a camera recorder.
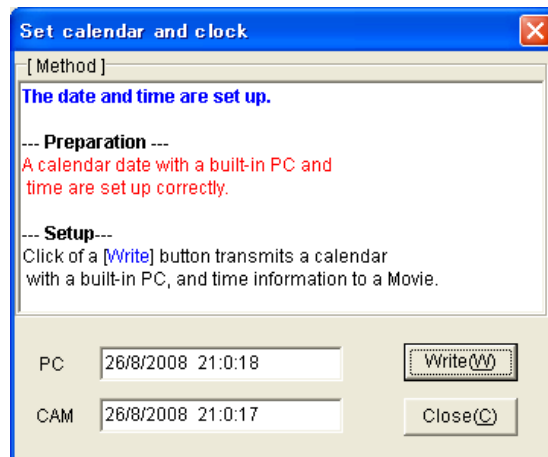
6-3-4. Factory Initialize

1. Select **"Factory initial setting (E)"** in **"Setting(S)"** menu.
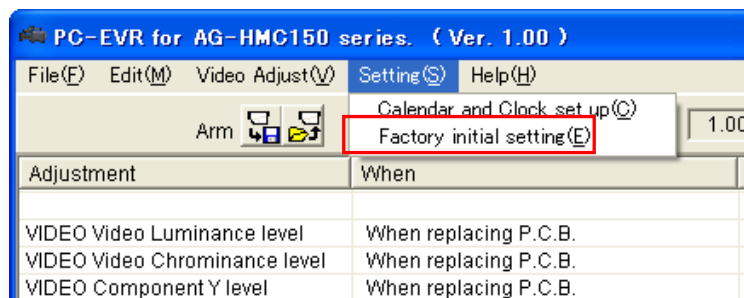
2. Click **"Execute(W)"** button on **SDM setup is Initializes** screen.
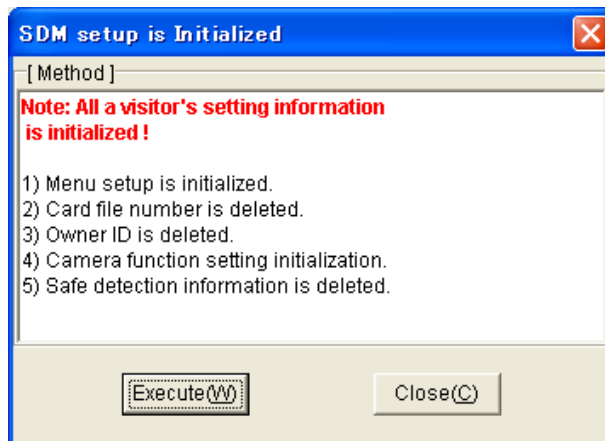
3. Confirmation screen is appeared as follows. Clicking **"Yes(Y)"** button, factory initialization is started.
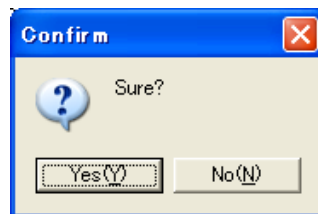
4. After initialization is completed, it replaces the **"FACTORY INIT OK: * "** display.
   The mark ***** is indicated as shipment destination information. Please confirm that mark is corresponding to the destination of the camera recorder.
   Ex.) In case of AG-HMC150P, it displayed as "P"
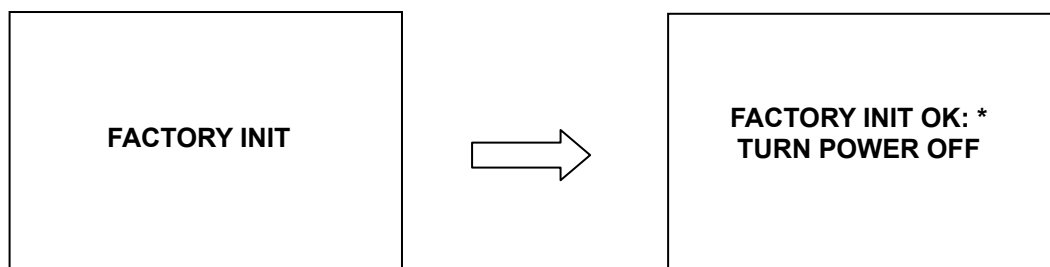
5. Turn power off the camera recorder.
6. Factory initialize can be executed by push the button of the camera recorder. Please refer to item "**8. Factory initialize**" (page INF-39).

6-3-5. Software Version Display (XP section)
Software version of XP micon and EEPROM can be displayed as follows.

7. Save and write EEPROM data

< PREPARATION >
When CAM and SYS EEPROM data save and write, the PC EVR software (VVS0070) is used. Please connect the tools and set up the PC EVR software follow the item **"5. PC EVR software (VVS0070)"**.

When XP EEPROM data save and write, the PC EVR software (VVS0069) is used. Please connect the tools and set up the PC EVR software follow the item **"6. PC EVR software (VVS0069)"**.

7-1. Save data of EEPROM data of Camera-Recorder to PC
7-1-1. Save data of Camera EEPROM
1. This camera recorder is set to **CAM** mode.
2. Select **"CAM(C)"** section after start up the PC EVR software, and click **"OK"** button.
3. Select **"Option"** in **"Setting(S)"** menu and select **"EEPROM : 4 byte read / write mode"** on **Option** screen.
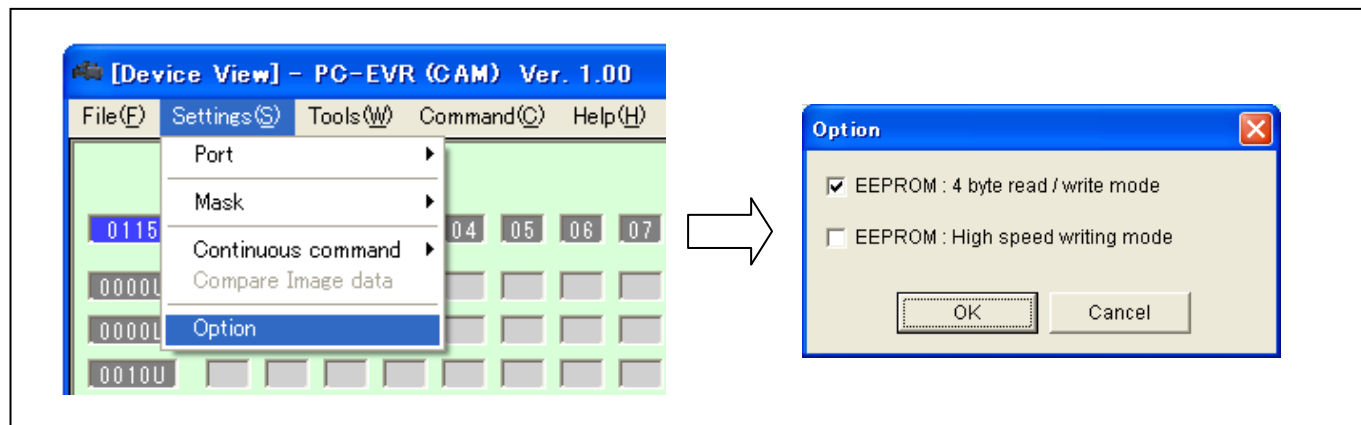
4. Select **"0000-0FFF"** on **Device View** screen as follows.
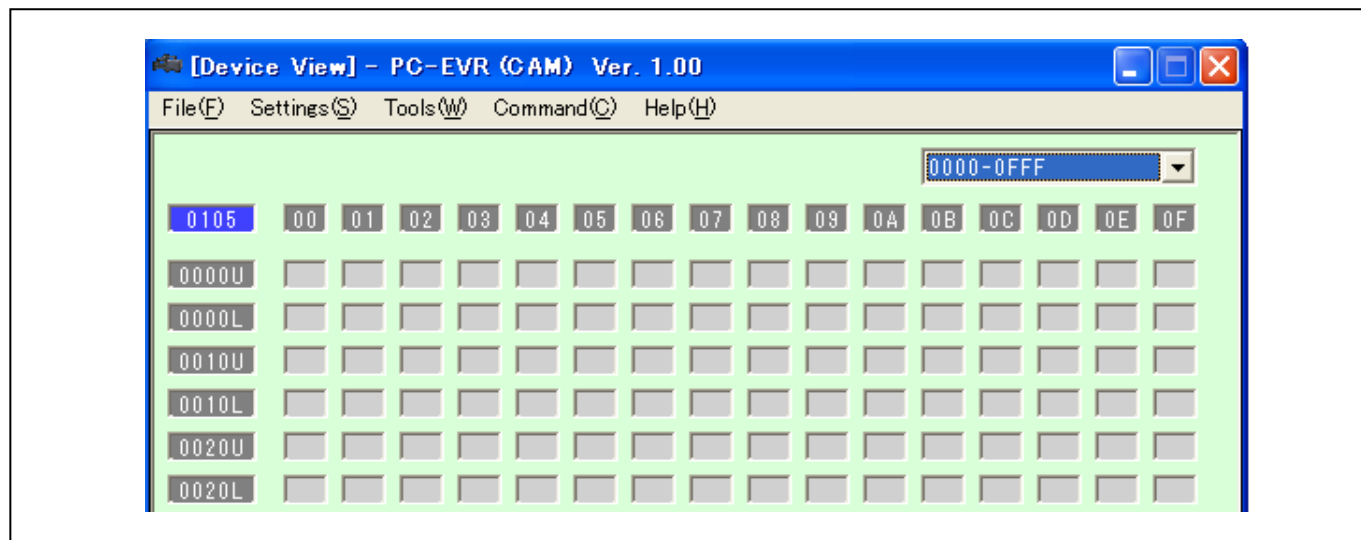
5. Select **"EEPROM Read(R)"** in **"File(F)"** menu and select **"64K"** on **EEPROM Read** screen.

6. Click **"OK"** button and reading starts.
7. Green is displayed to the status lamp while reading it. When writing is completed, the status lamp changes into a blue display and a message of the **"reading completed"** will appear on screen.
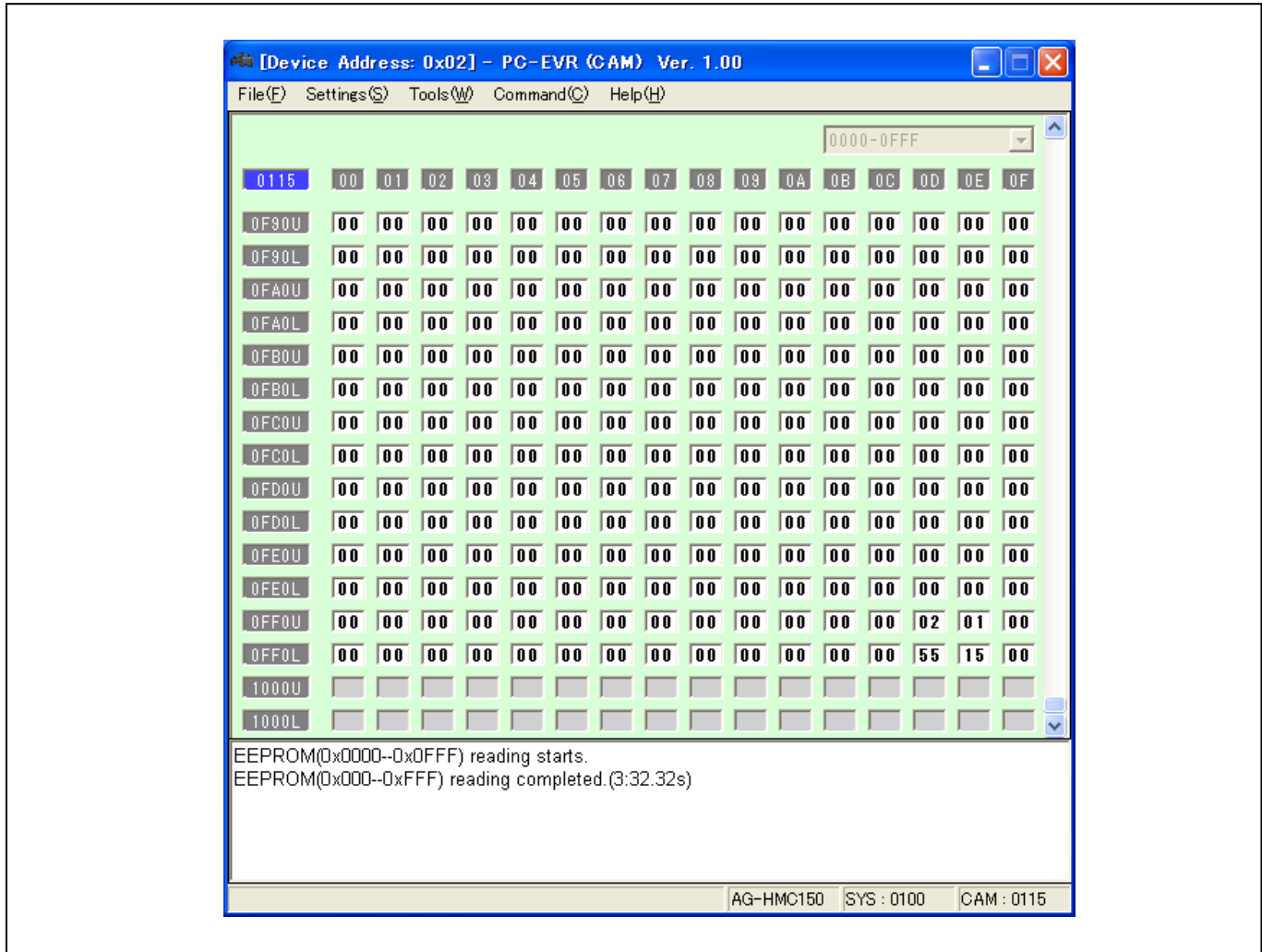
NOTE: When the reading error of data occurs, the power of the camera recorder should be OFF and ON. The following message is displayed when the reading error occurred. Click **"OK"** button, the power of the camera recorder automatically OFF and ON.
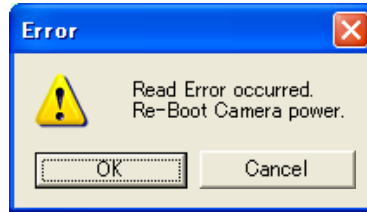
8. Select **"Save Image File(S)"** in **"File(F)"** menu.
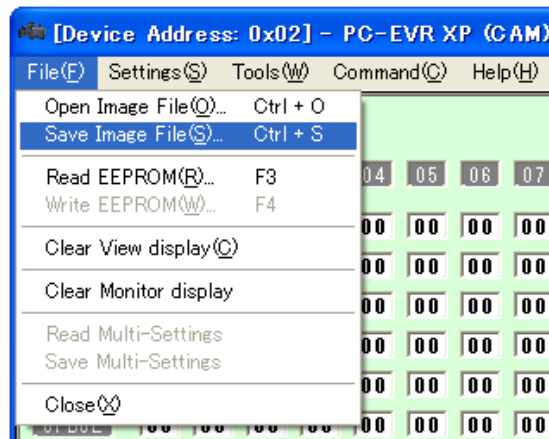
9. Click **"Send(S)"** button after the file name is input, and the place that saves a file is specified on **SAVE** screen. The following message is displayed when saving a file is completed.
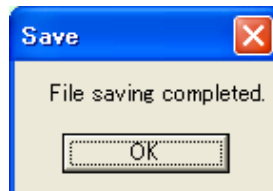
7-1-2. Save data of SYS EEPROM

1. This camera recorder is set to **CAM** mode.
2. Select **"SYSCON(S)"** section after start up the PC EVR software, and click **"OK"** button.
3. Select **"EEPROM Read(R)"** in **"File(F)"** menu and **"16K"** is selected on **EEPROM Read** screen.
4. Click **"OK"** button and reading starts.
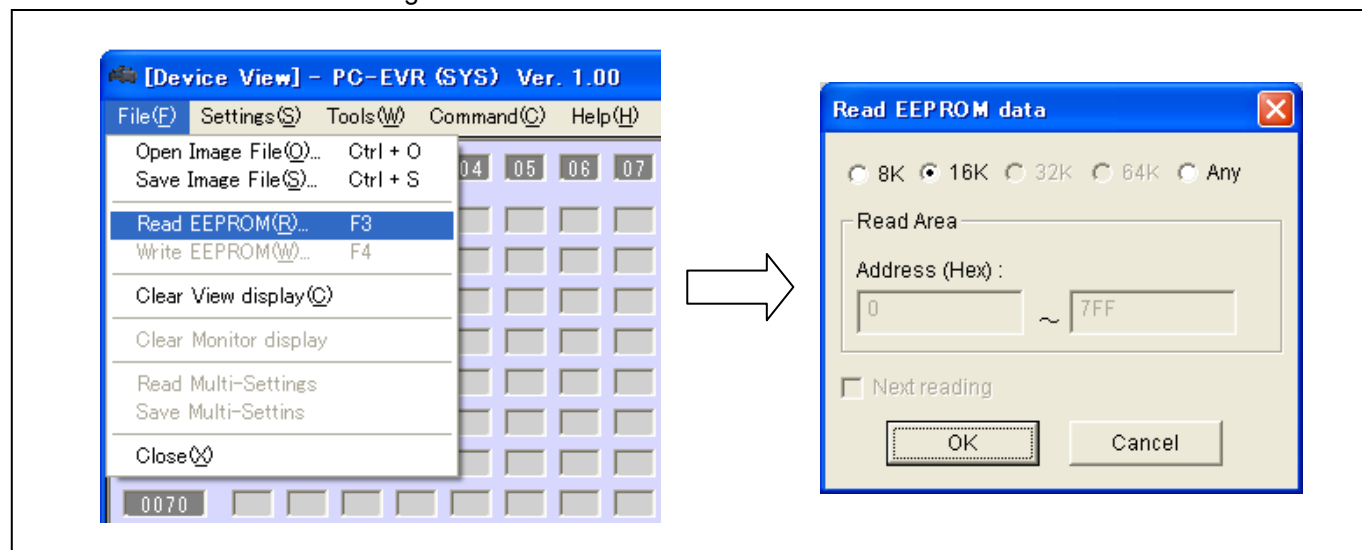
5. Green is displayed to the status lamp while reading it. When reading is completed, the status lamp changes into a blue display.
6. Select **"Save Image File(S)"** in **"File(F)"** menu.
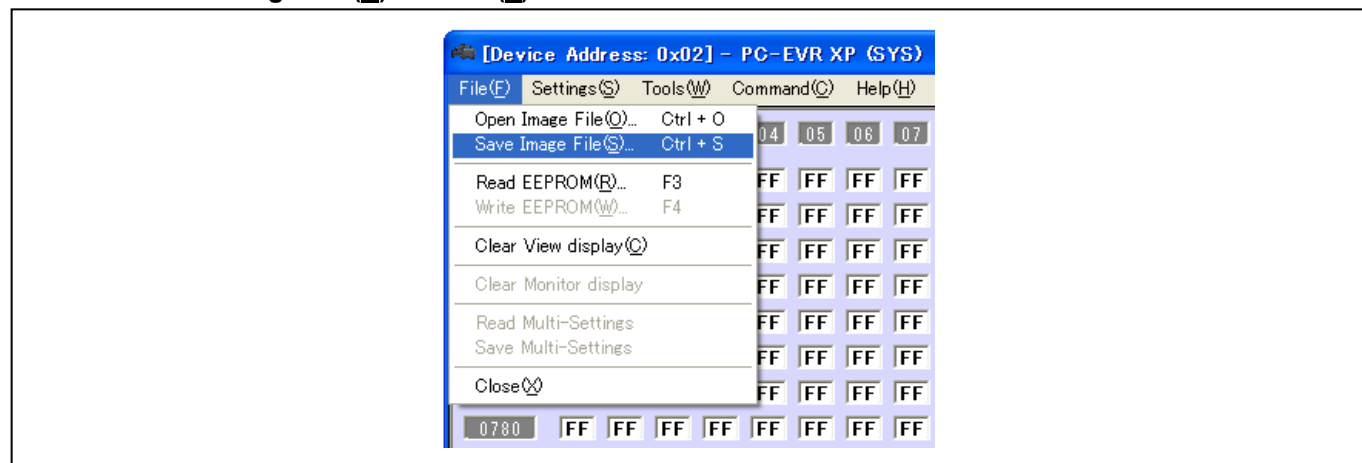
7. Click **"Send(S)"** button after the file name is input, and the place that saves a file is specified on **SAVE** screen. The following message is displayed when saving a file.
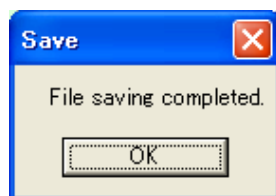
7-1-3. Save data of XP EEPROM

NOTE: Please execute the saving data of XP EEPROM to both system NTSC and PAL when you save the data of AG-HMC151E. The SYSTEM FREQ can be selected by setting menu (SYSTEM FREQ / OTHER FUNCTION / Setting menu)

1. This camera recorder is set to **COM** mode.
2. Start up the PC EVR software.
3. Select the model in **"Select Model"** box and click **"Start(S)"** button on **Start Communication** screen.
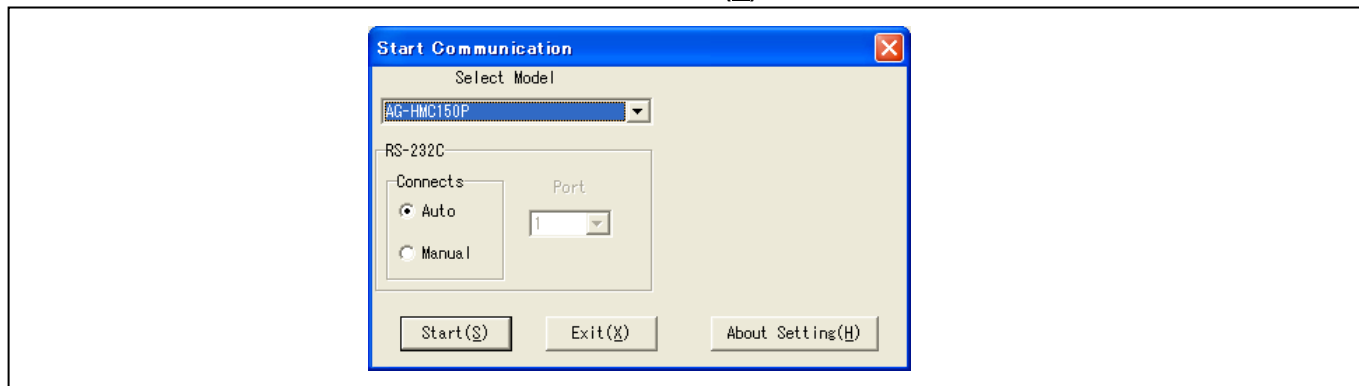
4. Click **"Arm"** button.
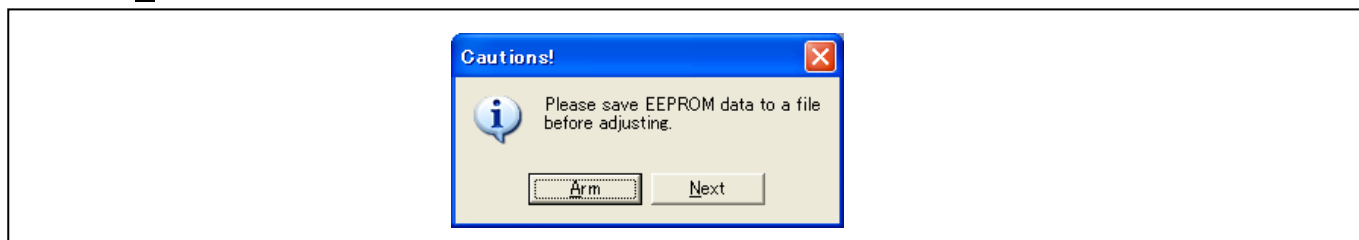
5. When the **"Arm"** button is clicked, **Input file name** screen appears to saving data. Save EEPROM of Arm with file name currently displayed.

HMC150P_210808_1547_A.TX

A: Arm

File saved time Hour & Minute   15:47

File saved day, month and year: 21/08/08

Model name: HMC150P/HMC151E/HMC152EN
HMC153MC/HMC154ER/HMC155
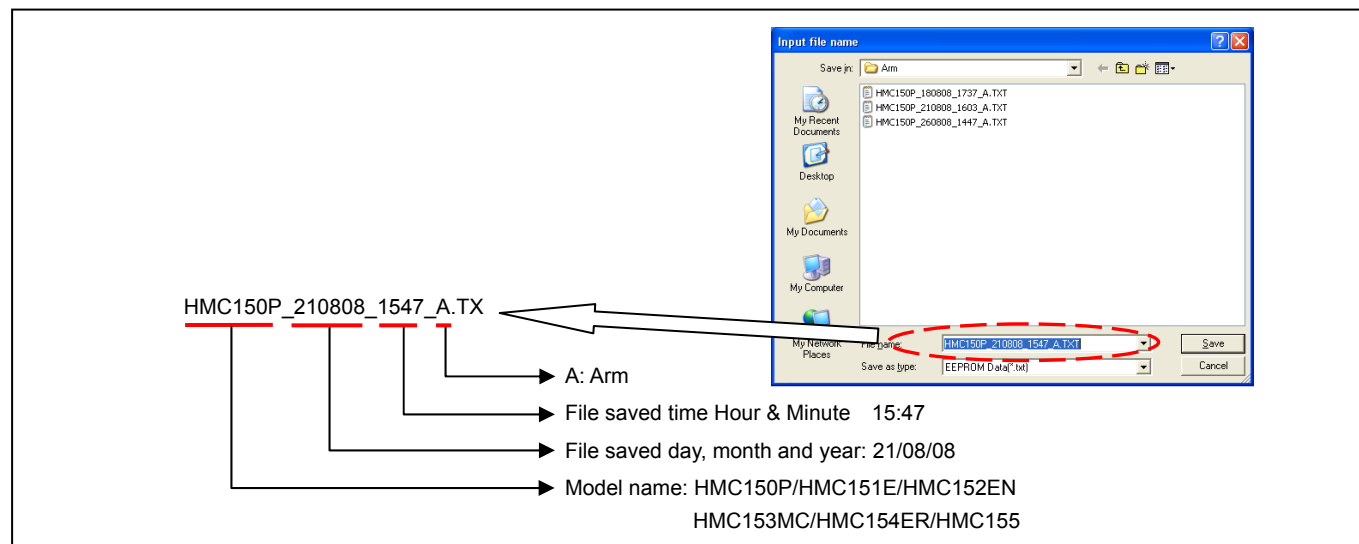
6. After confirming the file name, click **"Save"** button on **Input file name** screen. While saving data, progress bar is displayed. When **"OK(O)"** button is displayed, data saving is complete.

INF-33
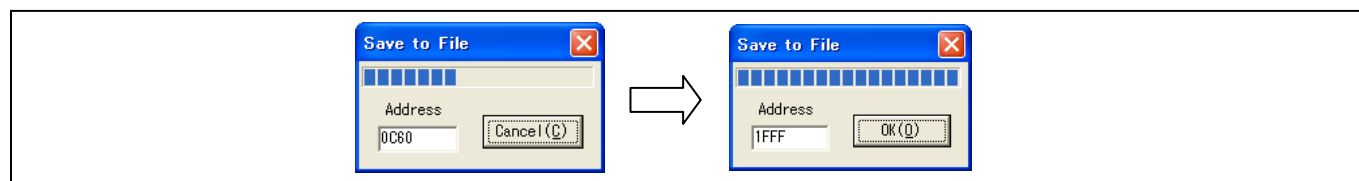
7. Clicking **"OK(O)"** button on **Save to File** screen, the following message appears again. Click the **"Next"** button to open the main menu screen.
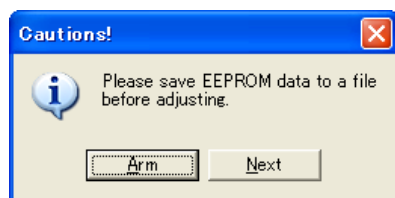
8. When **"Next"** button is clicked on the screen displayed in step 4 and 7, the main screen is displayed. The **Input file name** screen is displayed by clicking **"Save ARM EEPROM data(S)"** in **"File(F)"** menu and data can be saved according to the procedure for showing in step 5.
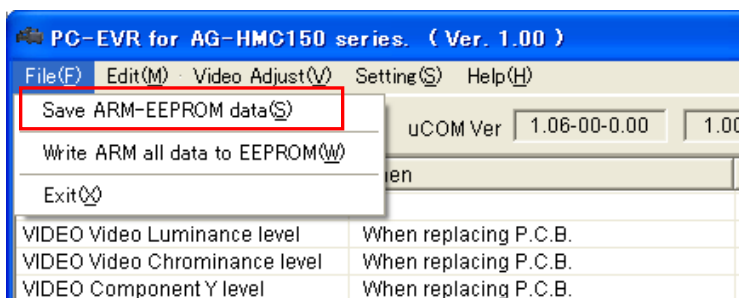
7-2. Write EEPROM data from PC to Camera-Recorder

You can return the Camera-Recorder to the condition before board exchanged by writing EEPROM data to new board, which has been saved before board exchanged.

7-2-1. Write data of Camera EEPROM

1. This camera recorder is set to **CAM** mode.
2. Select **"CAM(C)"** section after start up the PC EVR software, and click **"OK"** button.
3. Select **"Open Image File(O)"** in **"File(F)"** menu, the screen for selecting the file to be written will appear.
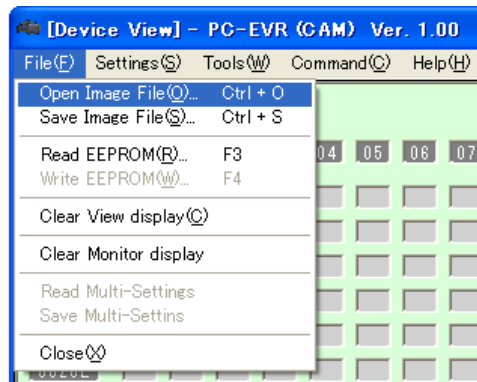
4. Click **"Open(O)"** button in the **Open** screen and reading starts.
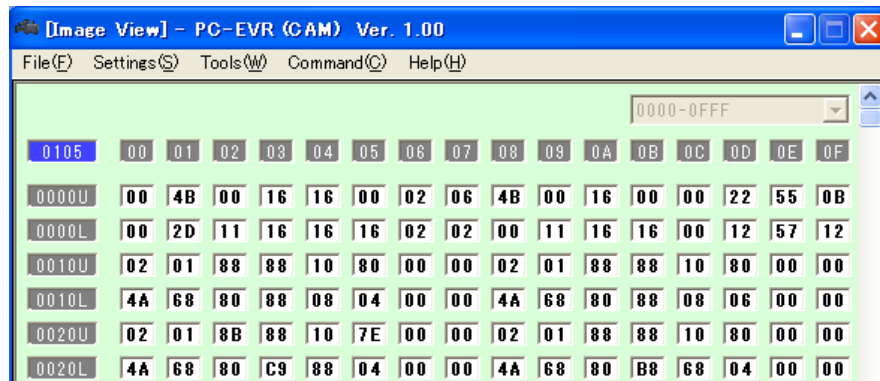
5. Select **"EEPROM Write(W)"** in **"File(F)"** menu, following message will appear.
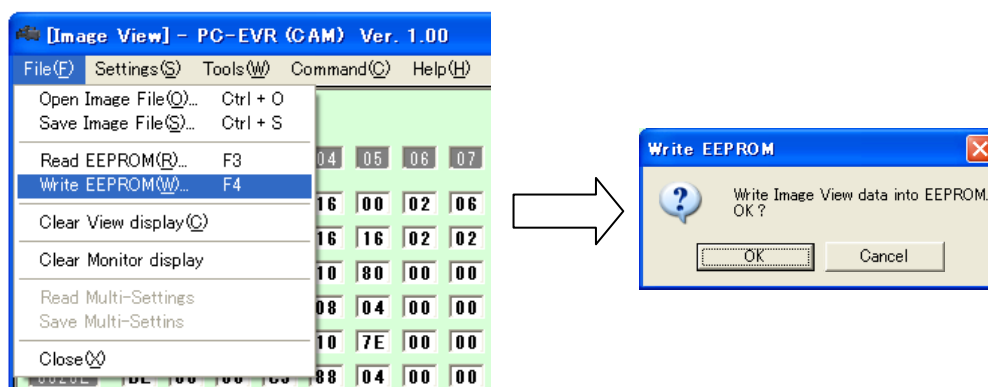
When **"Cancel(C)"** button is clicked, writing EEPROM data is canceled.
When **"OK"** button is clicked, the writing starts.

6. Red is displayed to the status lamp while writing it. When writing is completed, the status lamp changes into a blue display and a message of the **"writing completed"** will appear on screen.
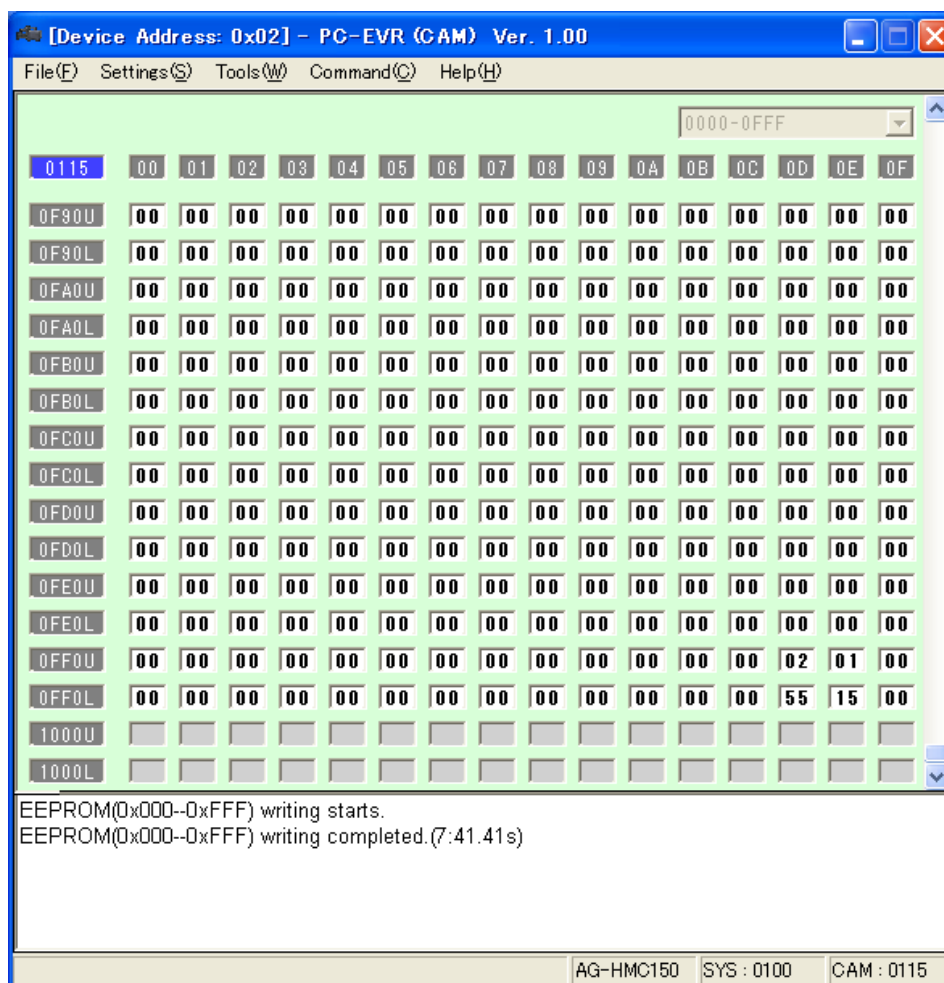
NOTE: When the writing error of data occurs, the power of the camera recorder should be OFF and ON. The following message is displayed when the writing error occurred. Click **"OK"** button, the power of the camera recorder automatically OFF and ON.
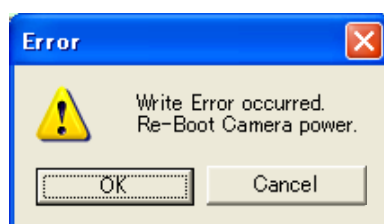
7-2-2. Write data of SYS EEPROM

1. This camera recorder is set to **CAM** mode.
2. Select **"SYSCON(S)"** section after start up the PC EVR software, and click **"OK"** button.
3. Select **"Open Image File(O)"** in **"File(F)"** menu, the screen for selecting the file to be written will appear.
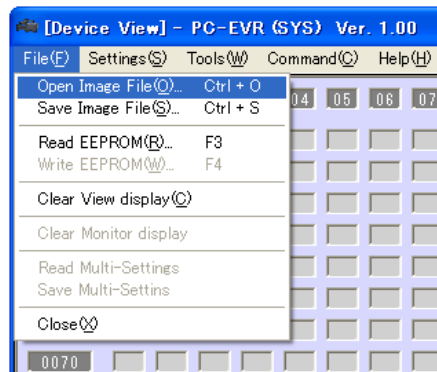
4. Select the file to be written in the Camera-Recorder.
5. Click **"Open(O)"** button in the **Open** screen and reading starts.
6. Select **"EEPROM Write(W)"** in **"File(F)"** menu, following message will appear.
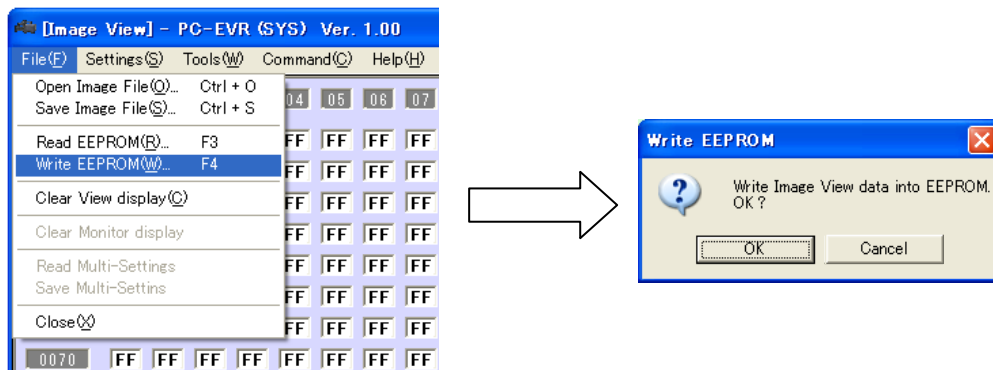
When **"Cancel(C)"** button is clicked, writing EEPROM data is canceled.
When **"OK"** button is clicked, the writing starts.

7. Red is displayed to the status lamp while writing it. When writing is completed, the status lamp changes into a blue display.
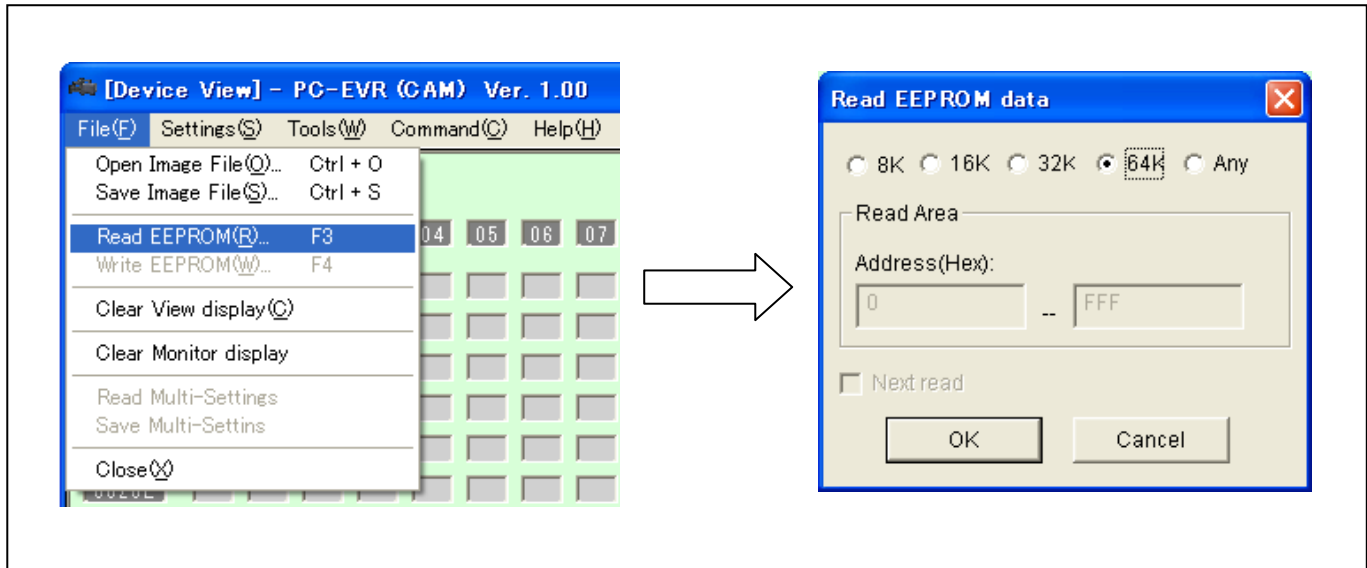
NOTE:
Hour meter value (OPERATION TIME) of camera recorder is saved in SYS EEPROM.
After EEPROM backup data of SYSCON is written back to the replaced P.C.Board, please turn the power supply OFF and ON with the following procedure.

-> Write back SYS EEPROM data
-> Remove the DC cable.
-> Return the power SW of camera recorder to the off position.
-> Connect the DC cable.
-> Turn the power SW of camera recorder to ON.
-> Turn the power SW of camera recorder to OFF.
-> After turning the power SW of camera recorder to ON, confirm that Hour Meter value is returned to the
   original value.

7-2-3. Write data of XP EEPROM

NOTE: Please execute the writing data of XP EEPROM to both system NTSC and PAL when you write the data of AG-HMC151E. The SYSTEM FREQ can be selected by setting menu (SYSTEM FREQ / OTHER FUNCTION / Setting menu).

1. This camera recorder is set to **COM** mode.
2. Start up the PC EVR software.
3. Select the model in **"Select Model"** box and click **"Start(S)"** button on **Start Communication** screen.
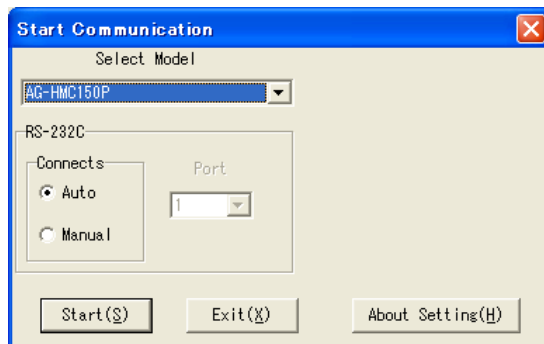
4. Clicking **"Next"** button, main screen is displayed.
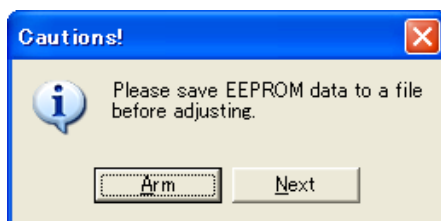
5. Select **"Write ARM all data to EEPROM (W)"** in **"File(F)"** menu, **Select file** screen is displayed..
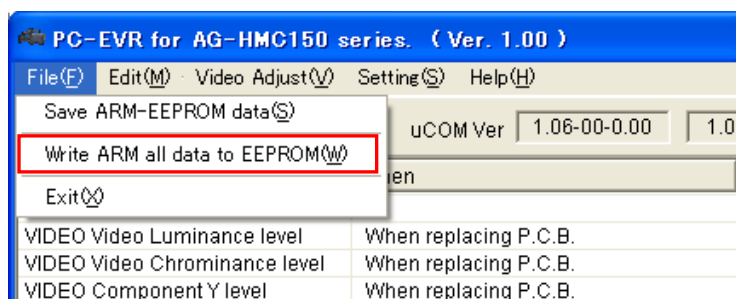
6. Select the file to be written on **Select file** screen and clicking **"Open"** button, reading starts. While writing data, progress bar is displayed. When **"OK(O)"** button is displayed, data writing is complete.

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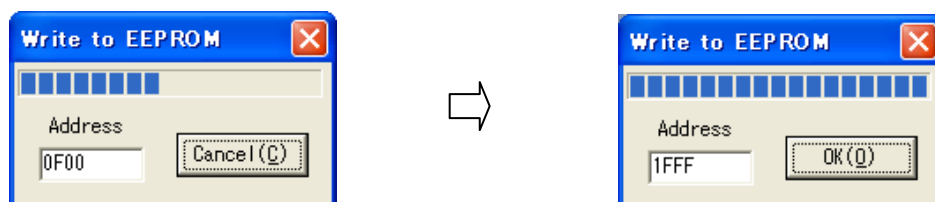
8. Factory Initialize

<u>**Please note that the following data etc. are initialized when the FACTORY initialization is executed.**</u>

- Value of current operating status of setting menu (included scene file F1 to F6) → factory default
- Value of user file in EEPROM → factory default
- Counter display → Time code display
- Value of TCG/UBG and COUNTER → 0
- CAMERA micon → factory default
- XP micon → factory default

NOTE: The value of the hour meter is not reset (OPERATION TIME & SERVO ZOOM).

< Initialize procedure >
1. Confirm that the SD card does not insert in slot of camera recorder.
2. This camera recorder is set to **CAM** mode.
3. The following three buttons are pushed at the same time for two seconds or more.
   [EXEC] + **[REW]** + **[REC START/STOP]**

REW (Tilt the operation lever in the ◄ direction)

EXEC button

REC START/STOP button
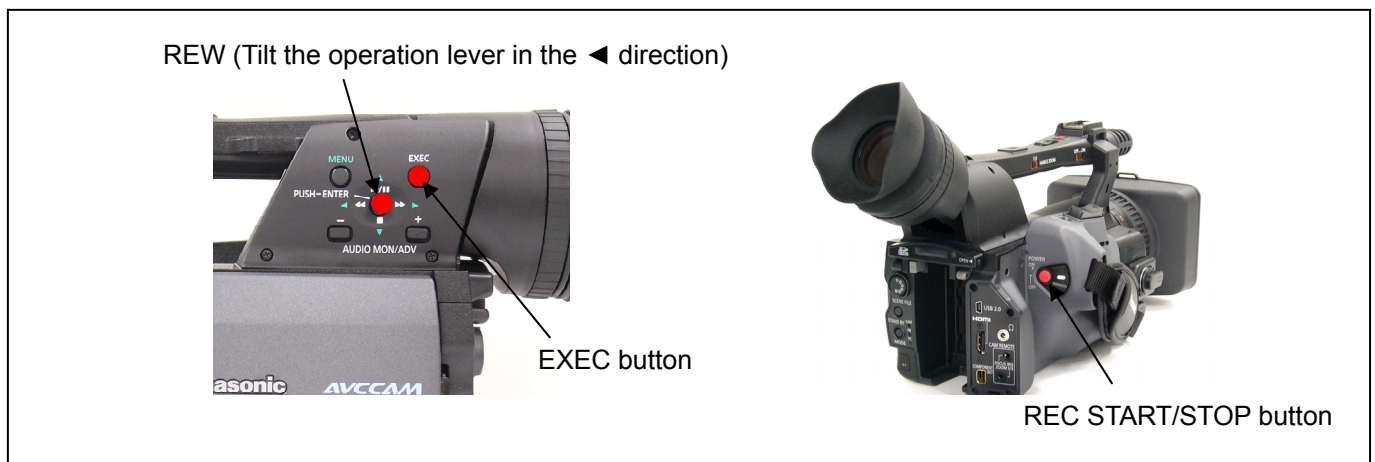
4. It is blink displayed as **"FACTORY INIT"** on the LCD panel.
5. After initialization is completed, it replaces the **"FACTORY INIT OK: * "** display.
   The mark ***** is indicated as shipment destination information. Please confirm that mark is corresponding to the destination of the camera recorder.
   Ex.) In case of AG-HMC150P, it displayed as "P".

FACTORY INIT

FACTORY INIT OK: *
TURN POWER OFF
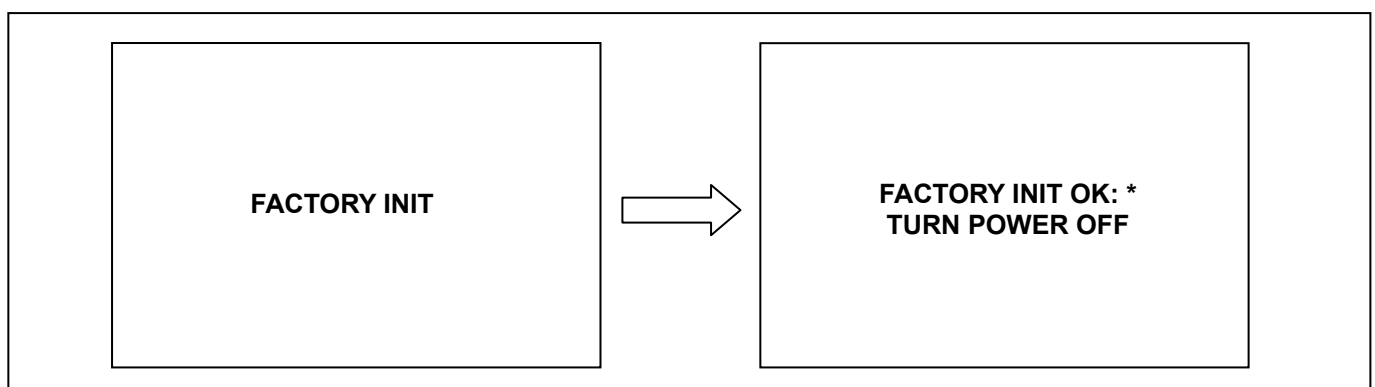
6. Turn power off the camera recorder.

NOTE: Factory initialize can be executed by PC EVR software (VVS0069). Please refer to item **"6-3-4. Factory Initialize"** (page INF-27).

9. Oeration after major part exchanged

9-1. Operation List
These are items that must be done when the major part has been changed.

X: Operation required

	Replacement Parts	Adj.	Version conf.	EEPROM	Remark
	DIGITAL MAIN P.C.Board	X	X	X	
	CAMERA P.C.Board	X	X		
	POWER P.C.Board				Not required
	SD CARD P.C.Board				Not required
CAMERA LENS Ass'y	CAMERA LENS Unit	X			
	LENS Unit	X			
	PRISM Unit	X			
	ZOOM MOTOR Unit	X			
	MF Ring U				Not required
SIDE JACK Ass'y	SIDE JACK P.C.Board				Not required
	SIDE JACK2 P.C.Board				Not required
	RCA JACK P.C.Board				Not required
SIDE CASE R U Ass'y	R SIDE P.C.Board	X			Setting of Internal clock's
	CAM OP P.C.Board				Not required
	TOGGLE SW P.C.Board				Not required
	IRIS DIAL P.C.Board				Not required
LCD Ass'y	LCD Unit				Not required
	LCD LEV P.C.Board				Not required
GRIP CASE Ass'y	ZOOM SW Unit	X			
	ZOOM SW P.C.Board	X			
	POWER SW P.C.Board				Not required
TOP CASE Ass'y	TOP CON P.C.Board				Not required
REAR JACK Ass'y	REAR JACK P.C.Board				Not required
	REAR JACK2 P.C.Board				Not required
BACK CASE Ass'y	BATTERY P.C.Board				Not required
	MODE SW P.C.Board				Not required
EVF Ass'y	EVF Unit				Not required
	EVF CON P.C.Board				Not required
HANDLE Ass'y	HANDLE PB P.C.Board				Not required
	REMOCON F P.C.Board				Not required

9-2. Operation flow chart after replacement of major parts

9-2-1. DIGITAL MAIN P.C.Board

Write the Scene file data to SD memory card.

Write the Setting menu data (USER FILE) to SD memory card.

Is it possible to backup the data of XP EEPROM ?

NO → Please operate Following < Procedure 1 >

YES

Is it possible to backup the data of CAM EEPROM ?

NO → Please operate Following < Procedure 2 >

YES

Is it possible to backup the data of SYS EEPROM ?

NO

YES

The Hour Meter information becomes "0"

Please operate Following < Procedure 2 >

Backup the XP/CAM/SYS EEPROM data

Replace the DIGITAL MAIN P.C.Board

Refer to item "7. Save and write EEPROM data" on page INF-29 about save and writing procedure.

Load the backup data to new P.C.Board

Please operate following < Procedure 2 >

< Procedure 1 >

```
        ┌─────────────────────────────────────────┐
        │   Replace the DIGITAL MAIN P.C.Board     │
        └─────────────────────────────────────────┘
                          │
                          ▼
```

Set the destination.
Regarding destination setting procedure, refer to item **"6-3-1. Setting of destination"** (page **INF-24**).
NOTE: For AG-HMC151E model, "Setting of destination" is not required.

Write the Serial Number.
With Serial Number Writing Procedure, please consult service department of
Professional AV Business unit.

Write the 1394 UID numbers.
Regarding UID writing procedure, refer to item **"6-3-2. Write UID data"** (page **INF-25**)

Please operate following < Procedure 2 >

< Procedure 2 >

*NOTE
Confirm that the software version.
● XP MICON, XP EEPROM
Be the latest version.
(Refer to Global Service WEB Site
  about number of latest version.)

NO

YES

Update to latest version

Video Adjustment is required.
Regarding required adjustment items, refer to item **"9-3-2. VIDEO Adjustment"** (page **INF-46**).

CAMERA Adjustment is required.
Regarding required adjustment items, refer to item **"9-3-1. CAMERA Adjustment"** (page **INF-46**).

Factory Initialize is executed.
Regarding Factory initialization procedure, refer to item **"6-3-4. Factory Initialize"** (page **INF-27**)
and **"8. Factory Initialize"** (page **INF-39**)

Set the Internal clock`s date and time.
Refer to item **"Setting the Calendar"** of operation instructions and item **"6-3-3. Setup of the
Date and Time of the Internal Clock"** (page **INF-26**) for the setting method.

Load the backed up Scene file data to new board.

Load the backed up Setting menu data (USER FILE) to new board.

Overall Check

9-2-2. CAMERA P.C.Board

Replace the CAMERA P.C.Board

↓

CAMERA Adjustment is required.
Regarding required adjustment items, refer to item **"9-3-1. CAMERA Adjustment"** (page **INF-46**).

↓

Overall Check

9-2-3. CAMERA Lens Ass'y

Replace the CAMERA Lens Ass'y.

↓

Reset the operation number of times of Zoom Motor.
Refer to item item **"5-4-5. Display of ZOOM MOTOR operation number of times(CAM(C) section)"** (page **INF-20**) for the reseting method.

↓

CAMERA Adjustment is required.
Regarding required adjustment items, refer to item **"9-3-1. CAMERA Adjustment"** (page **INF-46**).

↓

Overall Check

9-2-4. Lens Ass'y

Replace the Lens Ass'y.

↓

CAMERA Adjustment is required.
Regarding required adjustment items, refer to item **"9-3-1. CAMERA Adjustment"** (page **INF-46**).

↓

Overall Check

9-2-5. PRISM Ass'y

Replace the PRISM Ass'y.

↓

CAMERA Adjustment is required.
Regarding required adjustment items, refer to item **"9-3-1. CAMERA Adjustment"** (page **INF-46**).

↓

Overall Check

9-2-6. ZOOM MOTOR Ass'y

> **Replace the ZOOM MOTOR Ass'y.**

↓

> **Reset the operation number of times of Zoom Motor.**
> Refer to item item **"5-4-5. Display of ZOOM MOTOR operation number of times(CAM(C) section)"** (page **INF-20**) for the reseting method.

↓

> **CAMERA Adjustment is required.**
> Regarding required adjustment items, refer to item **"9-3-1. CAMERA Adjustment"** (page **INF-46**).

↓

> **Overall Check**

9-2-7. ZOOM SW Ass'y

When ZOOM SW P.C.Board is replaced, it requires same operation.

> **Replace the Zoom SW Ass'y.**

↓

> **CAMERA Adjustment is required.**
> Regarding required adjustment items, refer to item **"9-3-1. CAMERA Adjustment"** (page **INF-46**).

↓

> **Overall Check**

9-2-8. R SIDE P.C.Board

> **Replace the R SIDE P.C.Board.**

↓

> **Set the Internal clock`s date and time.**
> Refer to item **"Setting the calendar"** of operation instructions and item **"6-3-3. Setup of the Date and Time of the internal clock"** (page **INF-26**)for the setting method

↓

> **Overall Check**

9-3. Adjustment after replacement of major parts

When the following parts are exchanged showing in the table, the adjustment and confirmation are required follow the items shown by mark "X" in the table.
The adjustment procedure has been described to section 3 (Electrical adjustment procedure).

9-3-1. CAMERA Adjustment

ADJISTMENT ITEM	*DIGITAL MAIN P.C Board		CAMERA LENS Unit			ZOOM SW P.C. Board	CAMERA P.C. Board
	When back up CAMERA EEPROM data	When no back up CAMERA EEPROM data	LENS Unit	PRISM Unit	ZOOM MOTOR Unit		
D-Terminal Output Level Adj.	X	X					
Video Terminal Output Level Adj.	X	X					
Zoom SW Center Value	X	X				X	X
Hall Amp	X	X	X				X
Iris PWM	X	X	X				X
OISu	X	X	X				X
Zoom Tracking	X	X	X		X		X
White Shading		X		X			X
White Balance (Indoor)		X		X			X
White Balance (Outdoor)		X		X			X
White Balance (Palook) *NOTE1		X		X			X
White Balance (White FL) *NOTE1		X		X			X
White Balance (Cool White) *NOTE2		X		X			X

X: Adjustment / Confirmation Required

* The method of data backup (EEPROM) has been described to the item **"7. Save and write EEPROM data"** of service information (SECTION 1).

*NOTE1: The Palook and White FL white balance adjustment are required only for NTSC model.
*NOTE2: The Cool White white balance adjustment is required only for PAL model.

9-3-2. VIDEO Adjustment

ADJISTMENT ITEM	*DIGITAL MAIN P.C Board		CAMERA LENS Unit			ZOOM SW P.C. Board	CAMERA P.C. Board
	When back up XP EEPROM data	When no back up XP EEPROM data	LENS Unit	PRISM Unit	ZOOM MOTOR Unit		
D-Terminal Output Level Adj.	X	X					
Video Terminal Output Level Adj.	X	X					

X: Adjustment / Confirmation Required

* The method of data backup (EEPROM) has been described to the item **"7. Save and write EEPROM data"** of service information (SECTION 1).

10. Caution when replacing UniPhier IC (XP CPU)

When UniPhier IC (IC1200) on the Digital MAIN P.C.Board is exchanged, it is necessary to exchange NAND FLASH (IP1500) at the same time. Please execute some operation according to the procedure for showing in the following flow chart when you exchange UniPhier IC.

Exchange the UniPhier IC (IC1200) and NAND FLASH (IP1500)

↓

Set the destination.
Regarding destination setting procedure, refer to item **"6-3-1. Setting of destination"** (page INF-24).

↓

Write the Serial Number.
With Serial Number Writing Procedure, please consult service department of Professional AV Business unit.

↓

Write the 1394 UID numbers.
Regarding UID writing procedure, refer to item **"6-3-2. Write UID data"** (page INF-25).

↓

Set the Internal clock`s date and time.
Refer to item **"Setting the calendar"** of operation instructions or item **"5-4-1. Setting and confirmation of the Date and Time of the internal clock (SYSCON(S) section)"** (page INF-18) and item **"6-3-3. Setup of Date and Time of internal clock"** (page INF-26) for the setting method.

↓

Execute the D-Terminal Output Level and Video Terminal Output Level Adjustment.
The adjustment procedure has been described to section 3 (Electrical adjustment procedure).

TOP SET UNIT

HANDLE UNIT

4ECM

REMOCON_F P.C.B.

F REMOCON SENSOR

TALLY LAMP (FRONT)

WB SENSOR

CN301

CN1002
CN1003
CN1201

4P
4P

REC START/STOP BUTTON

ZOOM BUTTON (HANDLE)

HANDLE ZOOM SW
1 2 3

Recording enable/disable SW

CN1000

10P FFC

HANDLE P.C.B.

TOP_CASE UNIT

24P FFC

CN104
CN103
CN102

TOP CON P.C.B.

GYRO_X SENSOR
GYRO_Y SENSOR

CN101
2P

SPEAKER

CN100

20P FFC

CN400

OPERATION BUTTON

PAGE, AUDIO MON/ VAR BUTTON

EXEC BUTTON

MENU BUTTON

MENU P.C.B.

22P FPC

VF_CASE_R_UNIT

EVF UNIT

EVF BL
EVF LCD PANEL

2P
20P

CN653
CN652

CN651

EVF CON P.C.B.

61P FPC

SIDE JACK UNIT

AUDIO OUT
CH1 CH2

VIDEO OUT

TC PRESET IN/OUT

RCA JACK P.C.B.

CN200
10P
CN202

SIDE JACK P.C.B.

INPUT 1 SW
LINE MIC
INPUT CH1

CN201
10P
CN401

SIDE_JACK2 P.C.B.

INPUT 2 SW
LINE MIC
INPUT CH2

CN020

30P FPC

CN106

POWER P.C.B.

B to B 120P
CN102
CN4

CN101

CN110

DIGITAL MAIN P.C.B.

CN6

EVR CONNECTOR (30P)

CN105

10P FFC

CN108

50P FPC

GRIP CASE UNIT

ZOOM BUTTON
REC CHECK BUTTON

ZOOM SW P.C.B.

CN351

10P FFC

CN301

CN300

ON OFF
S/S
POWER SW

POWER SW P.C.B.

REAR JACK P.C.B.

USB
COMPONENT OUT
HDMI OUT

CN304

REAR JACK UNIT

CN302

16P FPC

CN301

PHONE
FOCUS/IRIS REMOTE
ZOOM S/S REMOTE

REAR JACK2 P.C.B.

LENS UNIT

CCD FLEX P.C.B.

51P
CN1

CN2

51P FPC

B to B 50P
CN2
CN4

B to B 120P
CN1
CN3

8P
CN901

CN102
50P FFC

CAMERA P.C.B.

CN109

B to B 50P
CN104
CN1

SD CARD SLOT

SD CARD P.C.B.

16P FFC

SIDE CASE R S UNIT

CN1401 CN1400

CAM OP P.C.B.

FOCUS ASSIST BUTTON
FOCUS SW

USER1 BUTTON
USER2 BUTTON
USER3 BUTTON

PUSH AUTO BUTTON

ND FILTER
1/64
1/16
1/4
OFF

CN101

6P FFC

CN150

AWB BUTTON

IRIS DIAL

IRIS DIAL P.C.B.

GAIN SW
W_BAL SW

TOGGLE SW P.C.B.

CN100

SIDE CASE R UNIT

CN100

16P FFC

CN1402

LCD OPEN SW

FOCUS RING SW

BATTERY

6P FFC

CN1403

R SIDE P.C.B.

CH1 SELECT SW
CH2 SELECT SW

INPUT1 SW
INPUT2 SW

BARS BUTTON
SHUTTER BUTTON

TALLY LAMP (REAR)

INT(L)
INPUT1
INPUT2
INT(R)
INPUT2

ON OFF
ON OFF
MIC POWER 48V

LCD BUTTON
WFM BUTTON

R REMOCON SENSOR

IRIS BUTTON
EVF_DTL BUTTON

SPEED SEL BUTTON
- +

COUNTER-RESET/TC BUTTON

OIS BUTTON
ZEBRA BUTTON

DISP/MODE CHK BUTTON

AUTO/MANUAL SW

AUDIO CONTROL VR

CH1 CH2

CN404

30P
27P

FPC

LCD UNIT

MONITOR LCD PANEL
LCD BACK LIGHT

26P
12P

P1003
P1002

P1001

LCD LEV P.C.B.

BATTERY P.C.B.

CN2

CN500

BACK CASE UNIT

MODE_SW
SCENE FILE DIAL
OPERATION MODE LAMP

SLOT SEL

CAMERA
PB
PC

MODE SW P.C.B.

16P FFC

12. P.C.Board Location

HANDLE P.C.Board

REMOCON P.C.Board

TOP CN P.C.Board

MENU P.C.Board

EVF CN P.C.Board

ZOOM P.C.Board

POWER SW P.C.Board

REAR JACK P.C.Board

REAR JACK2 P.C.Board

RCA JACK P.C.Board

SIDE JACK2 P.C.Board

SIDE JACK P.C.Board

MODE SW P.C.Board

BATTERY P.C.Board

SD CARD P.C.Board

DIGITAL MAIN P.C.Board

POWER P.C.Board

CAMERA P.C.Board

CCD FLEX P.C.Board

LCD LEV P.C.Board

R SIDE P.C.Board

CAMERA OP P.C.Board

TOGGLE SW P.C.Board

IRIS DIAL P.C.Board